

August
1931

AMERICAN GAS ASSOCIATION MONTHLY

Atlantic City Again To Be Host to A. G. A.
Members—Convention and Exhibition
Open October 12

Growth Possibilities
In the Gas Industry

CLIFFORD E. PAIGE

A New Slant on the
Other Fellow's Job

R. S. CARTER

Plan To Restore Part
Of Gas Street Lights
in Nation's Capital

Hardware Men and
Plumbers Advocate
A. G. A. Trade
Relations Plan

A. G. A. Officials Attend First International
Gas Meet



Smashing Records

Employee-Customer Relations Course Sets New High

Breaks Enrollment Records!

5,600 Gas Company Employees enrolled since October, 1930. This record is, as far as known, the largest ever established by any industrial Course conducted in the United States.

THERE IS A REASON!

Breaks Completion Records!

Of the 644 employees enrolled from the Consolidated Gas Electric Light & Power Company of Baltimore, 98% have completed the Course successfully and have received their certificates from the American Gas Association. Based upon general experience in the United States, the Federal Trade Commission states that less than 7% of the students enrolled in correspondence courses complete such courses successfully. What a difference.

THERE IS A REASON!

The Reasons*

1. The appealing and stimulating content of the A. G. A. Employee-Customer Relations Course.
2. The method of handling, set forth in the Instructor's Manual.
3. The strong conviction that prevails in the Consolidated Gas Electric Light & Power Company that Public Relations is a most important feature of a public utility's responsibility.

* Advanced by E. B. Luce, Educational Director, Consolidated Gas Electric Light and Power Company of Baltimore, Md.

**FOR INFORMATION ABOUT THE
EMPLOYEE-CUSTOMER RELATIONS COURSE WRITE:**

American Gas Association

**420 Lexington Avenue
NEW YORK, N. Y.**

AMERICAN GAS ASSOCIATION MONTHLY

Allyn B. Tunis, Editor

Advisory Committee

FRANK LEROY BLANCHARD
EDWARD F. MCKAY

E. FRANK GARDINER
CHARLES E. WETZEL

F. HARVEY HOLDEN
HOWARD F. WEEKS

VOLUME XIII

AUGUST, 1931

NUMBER 8

CONTENTS

	PAGE
Our Own Who's Who—John Stilwell.....	334
Atlantic City Again To Be Host to A. G. A. Members—13th Annual Convention and Exhibit Will Open October 12.....	335
Hardware Men and Plumbers Advocate A. G. A. Trade Relations Plan.....	338
Henry L. Doherty Honored by Lehigh University.....	340
Gas Househeating.....	341
FRANK C. TAYLOR	
Plan to Restore Part of Gas Street Lights in Nation's Capital.....	343
Growth Possibilities in the Gas Industry.....	344
CLIFFORD E. PAIGE	
A New Slant on the Other Fellow's Job.....	347
R. S. CARTER	
A. G. A. Officials Attend First International Gas Meet.....	349
New Orleans Public Service Conducts Employee's School.....	350
Manufacturers To Hold Annual Meeting in Detroit, Sept. 17 and 18.....	352
PHILIP O. DEITSCH	
Enameling Mechanized.....	354
W. O. OWENS	
Southern California Proud of Natural Gas Bureau Exhibit.....	356
GEO. H. HECKLER	
Affiliated Association Activities.....	359
Convention Calendar.....	359
Personal and Otherwise.....	362
Home Service and the Homemaker.....	363
KAREN FLADOES	
The Modern Way of Drying Laundry.....	364
W. P. MCCOY	
Advertising and Its Relationship to Changeover by Gas Companies from Manufactured to Natural Gas.....	370
PAUL RENSHAW	
Gas Appliance and Equipment Developments.....	377
Monthly Summary of Gas Company Statistics.....	378
PAUL RYAN	

The Association does not hold itself responsible for statements and opinions contained in papers and discussions appearing herein.

Published Monthly by the

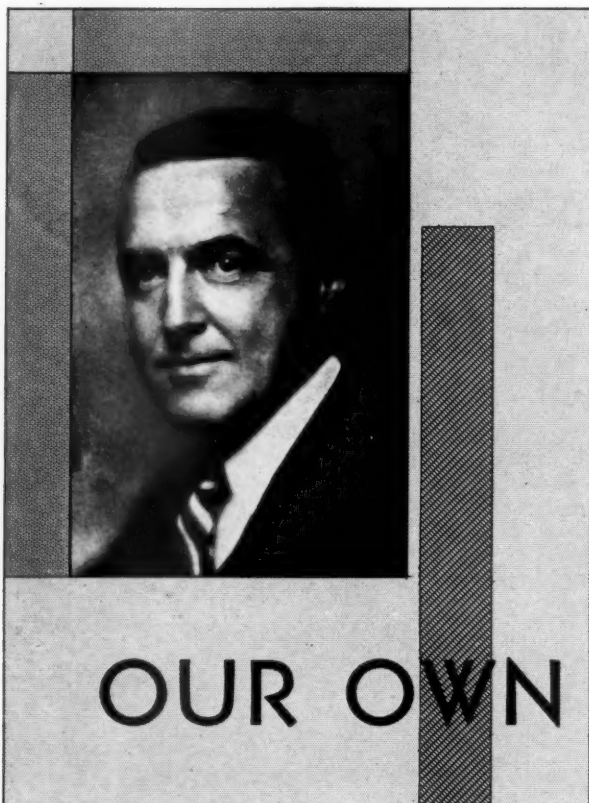
AMERICAN GAS ASSOCIATION

Publication Office, American Building, Brattleboro, Vt.
Editorial Offices, 430 Lexington Ave., New York, N. Y.

Entered as Second Class Matter at the Post Office at Brattleboro, Vermont, February 10th, 1922, under the Act of March 3, 1879.

Subscription Rate

\$3.00 a Year



◆
John Stilwell
◆

—
LXXV
—
◆

OUR OWN WHO'S WHO

JOHAN STILWELL, vice-president of the Consolidated Gas Company of New York, was born at Yonkers, New York. After an education in the public schools of Yonkers, he entered the Sheffield Scientific School, Yale University, and graduated in 1907 with the Degree of Ph.B. His first position in the utility field was with the Rochester Railway and Light Company (now the Rochester Gas and Electric Corporation) where he was employed as a cadet engineer in various departments. After two years in Rochester, he entered the employ of the Consolidated Gas Company in the construction department as a field engineer, and in 1911 was transferred to the general office. When the United States entered the World War, he was engineer of the department of meters (now the Customers' Service Department). He joined the Officers Reserve Corps in April, 1917, as first lieutenant, went overseas with the Eightieth Division, returning in 1919 as lieutenant-colonel, General Staff, having served as assistant chief of staff of the Fourth Army Corps. He again took up active duties with the Consolidated Gas Company in July, 1919, and was appointed general superintendent of transportation for the various affiliated companies of the Consolidated Gas Company. In April, 1926, he was made executive assistant to the senior vice-president, continuing also as general superintendent of transportation. On April 26, 1928, he was elected vice-president in charge of Industrial Relations of the Consolidated Gas Company of New York. Mr. Stilwell is an active member of the American Gas Association, and a former chairman of the Accident Prevention Committee.

AMERICAN GAS ASSOCIATION MONTHLY

VOLUME XIII

AUGUST, 1931

NUMBER 8



NEVER before in the history of industrial progress have men had a greater need for a realization of the inherent stability of their industry, or a keener desire for a renewal of their faith in the possibilities which the future will afford as a reward for intense, intelligent and co-operative effort in the development of such future possibilities.

This thought and this condition have been a challenge to the American Gas Association Headquarters Staff in laying plans for the business program and in laying out the exhibition of appliances and apparatus for the Thirteenth Annual Convention and Exhibition, which takes place October 12-16, at Atlantic City, N. J. Our individual problems which may have seemed so overwhelming—our competitive conditions which may have borne so heavily upon us during the past year of diminishing markets—all will receive the critical analysis that has been developed through the past year's committee activities and studies. Our problems of state control, taxation, rate schedules, merchandising and many others, both of an executive and technical character, will be examined and discussed in the light

13th Annual Convention and Exhibit Will Open October 12

of the experience of the entire industry. This experience, no matter how vexatious it may have appeared at certain times and certain places, nevertheless stands out in brilliant contrast to a majority of the commercial and industrial divisions of our business life.

Headquarters can only provide the opportunity; it rests with our members to make the Thirteenth Annual Convention a real occasion for the full potential inspiration which is all that is needed to carry us on to greater achievements in supplying a service that has become an essential part of the domestic and industrial development in every community. To the extent that our members participate in a consideration of the signs of the times—the development and training of the best salesmanship—the spread of natural and mixed gases—the making ready for the industrial load which awaits the return of business activity—no more, will the full op-

portunity of realizing the benefits of a cooperative organization, such as the American Gas Association, be taken advantage of at a time when such co-operative effort is most needed.

For this reason a special effort will be made in ensuing issues of the A. G. A. MONTHLY, and through circular letters, to acquaint our members with all details in regard to the Thirteenth Annual Convention which will have them realize its importance to them as active participants therein. For the present it is sufficient to say that for the third consecutive year the Convention and Exhibition will be staged under the big roof of the Atlantic City Municipal Auditorium. This assures the members that there will be a comprehensive arrangement of business sessions, entertainment program and the exhibit. The entire program is being prepared to so alternate the various features that everyone will have full opportunity to take part in all events.

It still is too early to give even a tentative outline of the program, but all committees, general, departmental and sectional are engaged in arranging convention details the whole of

which promises to surpass similar gatherings in the past.

Association Headquarters already has distributed circulars giving details of hotel accommodations. This was accompanied by an application form for the convenience of members, and those who have not already done so are urged not to delay in reserving rooms for their stay at the famous resort. Atlantic City's hotel facilities are more than ample to take care of the A. G. A. membership—about 7,000—but no single hotel has sufficient rooms to take care of more than a small proportion of those who will attend.

Negotiations are pending looking toward the usual reduced fares for the benefit of members and their dependents going to and from Atlantic City. As soon as arrangements have been completed, information will be sent out promptly from Headquarters.

As usual, much interest is expected to center in the Convention Exhibition. Reservations of space already exceed those made for previous displays, and indications are that they will excel former exhibits made by manufacturer company members, both in appliances and equipment and office devices.

For the benefit of those who will desire accurate data regarding the exhibits, a Directory of Exhibits will be published in booklet form. It will contain the names and addresses of each exhibitor, together with the names of those in charge of the display, and have abundant blank space for the insertion of any data a member may care to note for future reference purposes or reports.

In the sectional programs at the Convention there will be considered and discussed the vital problems and developments of interest to members who are working in the major departments of the gas business as far as the larger company members are concerned, where specialization of de-

partmental organization is carried to a high degree, it is possible to assign to representatives of company departments attendance at the meeting of the section or department of the Association in whose work they are most interested. In our smaller companies, however, where departmental organization is not possible to such an extent, it is frequently desirable that the Association delegate be in a position to attend the session of more than one section.

With this thought in mind, an earnest effort has been made to so arrange the sectional and departmental programs that it will be possible for such company delegates to schedule their attendance at Convention meetings and hear everything of interest to them. To accomplish this the secretaries of the various sections have



Atlantic City Auditorium—Again to be Scene of A. G. A. Convention

given much study and thought to coordinating the items appearing on their programs, and to arrange for a staggering of their meetings that would lend itself most to the accomplishment referred to above.

There is printed herewith the first tentative schedule of general, sectional and departmental meetings, and further information on this subject will be furnished to our members as it becomes more definite in its arrangement.

The Program Committee of the Accounting Section is planning again this year to devote the morning and afternoon of the first day of the Convention to the presentation of papers outlining methods and machines used in customers' accounting, including such subjects as register sheet plan, branch office, post card billing, stub accounting and punch card method. A general discussion of these papers

presented during the morning session on Monday will be held on Monday afternoon. The ensuing sessions of the Accounting Section will occur on Tuesday afternoon and Thursday afternoon respectively, and will be equally divided among subjects of interest to the following divisions of the section's work: Office Management Group; Customer Relations Group; General Accounting Group.

In addition to the above, it is hoped to have a paper on accounting problems incident to changeover to natural gas.

The Technical Section Program Committee is concentrating its program largely on presentations which will outline the problems of the large distribution centers in connection with the changeover to natural and mixed gases. The program will include addresses by prominent engineering executives which will deal with the economic as well as the engineering problems involved. A full consideration in a paper entitled, "Gas Mixtures; Their Utilization, Selection and Dis-

tribution," is given to this important subject. An interesting presentation has been promised which will illustrate with slides method of making adjustments in gas appliances in the utilization of various gas mixtures; the always interesting subject of distribution design; the latest developments in the research into pipe coatings and coating materials; as well as the latest development with regard to gum and problems arising from its presence in distributed gas will also be presented at these sessions which will be held on Tuesday and Thursday afternoons of the Convention.

Topical subjects also will be presented and discussed before the Commercial and Industrial Sections. The Publicity and Advertising Section will devote itself largely to the "Mechanics of Advertising."

The tentative schedule of general ses-

sions and meetings of departments and sections has been arranged as follows:

Monday morning, Manufacturers and Accounting Sections.

Monday afternoon, Publicity and Advertising Section; Accounting Section, and Home Service Roundtable.

Tuesday morning, General session.

Tuesday afternoon, Technical, Commercial and Accounting Sections.

Wednesday morning, General session.

Wednesday afternoon, Commercial and Industrial Sections; Natural Gas Department.

Thursday morning, General session.

Thursday afternoon, Technical, Industrial and Accounting Sections.

During the past year great progress has been made in the industry on the methods of manufacturing, distributing and utilizing gas. All of these accomplishments will be on display at the annual exhibit which promises to be the most interesting ever held in the industry. Over 200 exhibitors having already been allotted space.

The Industrial Section has arranged a program at its meetings this year to include sales and utilization phases of that branch of business. The changing over from manufactured to mixed gases is of vital importance to the industrial men and this subject will also be discussed on the program. The anticipation of the upward trend of business and the corresponding prospective acceptance of large volume gas sales will act as a stimulus for the closer study of our industrial markets.

The Entertainment Committee has planned what they consider the most unusual program for this year's convention. They have again selected Wednesday night for a concert which will be most unique in its presentation. The President's reception will be held on Tuesday evening and a special dance on Thursday. The ladies will be entertained at the Seaview Golf Club where so many affairs have been held in the past. The American Gas Association has won a very high regard through the entertainment which it arranges for its members at the conventions and it will this year maintain that high standard.

Michigan Association Honors Frank A. Lane



F. A. Lane

FRANK A. LANE, superintendent and manager of the Citizens Gas Fuel Company, Adrian, Michigan, was made an honorary life member of the Michigan Gas Association at the convention of that organization at Mackinac Island, June 29 and 30, and July 1, in recognition of his completion of 62 years of continuous service in the gas industry.

Mr. Lane, still on the job at the age of 77 years, was born in 1854 and entered the gas business as an office boy of the Omaha Gas Company, Omaha, Neb., in 1869.

He was with the Omaha Gas Com-

pany until 1875, when he became superintendent for Charles R. Fabin, of the Toledo Gas Light and Coke Company, Toledo, Ohio. He remained with that company until 1899, when he became superintendent of the Peoria Gas Light and Coke Company, Peoria, Ill.

From 1901 to 1903, he was superintendent of the Paducah Gas Light and Coke Company of Paducah, Ky. From 1903 to 1908, he was construction superintendent for the Lloyd Construction Company, erecting gas equipment at various plants. He became superintendent and manager of the Citizens Gas Fuel Company at Adrian in 1908, which position he still holds.

During this period of 23 years he has been affiliated with the Michigan Gas Association, which has now made him an honorary life member.

Nominate Mr. Lauer To Head A. S. M. E.



C. N. Lauer

CONRAD N. LAUER, president of the Philadelphia Gas Works, Philadelphia, Pa., and a member of the board of directors of the American Gas Association, has been nominated for the presidency of the American Society of Mechanical Engineers, which is regarded as a conspicuous honor.

Mr. Lauer, who always has been active in the affairs of the American Gas Association was born in 1869 at Three Tuns, Pa. He received his education in public and private schools in Montgomery County and through special instructors. From 1893 to 1902 Mr. Lauer was with the Link-Belt Company, serving in various capacities ranging from time clerk to acting superintendent of the plant. During this time he was sent to the Bethlehem Steel Company to secure data, and later assisted in introducing scientific management methods in the Link-Belt plant.

In 1903 Mr. Lauer became associated

with Dodge & Day, engineers, and with their successors, Day & Zimmermann, Inc. During the first ten years of his service he dealt with a large variety of problems incidental to the selection of industrial equipment, the layout of equipment, routing of materials, and the determination of types of building structure best suited to house such equipment and processes. His work also embraced investigations for banking interests. During the war he was in charge of large construction projects under government contracts. In the latter years of his connection with the Day & Zimmermann organization he was its vice-president and director.

In 1923 he was the Cyrus Fogg Brackett lecturer before Princeton University. He is the author of "Engineering in American Industry," and is a contributor to the technical press. He has also been a special lecturer before the University of Pennsylvania. He received the honorary degree of Mechanical Engineer from Stevens Institute of Technology in 1930.

Mr. Lauer became an associate of the A. S. M. E. in 1903, and a member in 1923. Since 1926 he has been a manager and member of the Executive Committee of the Council. At present he holds the office of vice-president of the Society.

Hardware Men and Plumbers Advocate A. G. A. Trade Relations Plan

DURING the week of June 22 the statement of principles for promoting cooperative trade relations, adopted by the Executive Board of the American Gas Association on May 2, 1931, was presented to the annual conventions of the National Retail Hardware Association and of the National Association of Master Plumbers by the chairman of the A. G. A. Committee on Trade and Dealer Cooperation, Hugh Cuthrell, of Brooklyn, N. Y.

The principles presented were those prepared by the Association's Committee on Allied Trades, O. H. Fogg, Chairman, and recently distributed to member company delegates of the A. G. A.

In presenting these principles as a representative of the American Gas Association, Mr. Cuthrell addressed these conventions as follows:

"That the subject of dealer relations has had the serious consideration of the leading executives of the gas industry will appear in the basic principles set forth by the American Gas Association for the guidance of its member companies in promoting cooperative trade relations.

"As the result of investigation of this subject over an extended period of time, and in an effort to foster a spirit of cooperation between the appliance dealers and the utilities, the American Gas Association, through its Executive Board at a meeting held in Atlantic City, N. J., on May 2, 1931, adopted the following set of principles:

It is recommended that gas companies take the initiative in bringing about conferences with dealers in their localities, to the end that the following or other mutually acceptable principles may be agreed upon, adopted and put into use for the purpose of stimulating the sale of suitable gas appliances and promoting the use of gas service in a way that will be mutually advantageous to all participants.

1. All gas appliances offered for sale by all cooperating agencies shall

National Associations Go On Record Favoring Cooperation with Utilities

bear the seal of approval of the American Gas Association Testing Laboratory.

2. No appliances or merchandise not directly related to the use of gas shall be sold by gas utilities.
3. In all merchandising activities, the resale mark-up of all gas appliances that have received reasonable customer acceptance shall be consistent with present day merchandising practices. There shall be no premiums given with nor trade-in allowances made in connection with the sale of any such appliances unless all cooperating agencies are in a position to participate.
4. The presenting to the public of those gas appliances not having received reasonable customer acceptance shall be considered as promotional activities and not as merchandising activities.
5. Coordinated advertising of approved appliances should be developed by gas utility companies and local dealers, and the gas company should give all reasonable assistance possible to the dealer in advertising, displays and sales assistance.
6. The deferred payment feature of our merchandising activities shall be on an economically sound basis.

"The gas industry is the oldest of all the utilities and many of its pioneering experiences have been the guide posts in the development of such utilities as electricity, water, transportation, wire companies, and the like. Within its own sphere of activity, the gas industry has been required to do much pioneering work and to carry on, almost continuously since its inception, a campaign of experiment and promotion in order to keep abreast of the ever changing conditions of American life, and to meet the competition of new inventions.

"Originally gas was used as an illuminant, displacing the tallow dip

and the kerosene lamp. With the commercial exploitation of electricity the gas industry had to seek new markets for its product. Out of this situation grew the development of the gas range, not the modern, efficient gas range that we know today, but its very crude ancestor.

"With the development of the use of gas for cooking, the entire burden of promoting the sale of cooking appliances rested upon the gas companies. The manufacturer of gas ranges had no outlet for his goods except through the gas companies, for dealers were not then—nor are they now—in the least interested in undertaking a purely promotional activity as differentiated from a merchandising activity.

"The introduction and commercial establishment of any new article or commodity must be accompanied by extended pioneering and the development work must continue for whatever period of time necessary to bring about general public acceptance of the article. It may be fairly said that the only gas appliance, even after many years of development, that now enjoys general public acceptance is the conventional type of gas range. Even new types of gas ranges, differing substantially in design, construction and appearance, from the conventional types continue to require a definite amount of promotional effort, and the same is true of all classes of appliances which are undergoing improvement and change in design. It is obvious that if the effort to popularize and bring about public acceptance of these appliances is left entirely to the dealer, with the stimulus due to the utility's incentive withdrawn, the result must react to the disadvantage

of the dealer as well as the utility. For in the nature of things there is no escape for the utility from the obligation to create a market for appliances. Whether the requirements of the market, so created, are met by the utility or the dealer is of secondary importance to the utility. The dealer is, of course, interested in merchandising activities from the standpoint of merchandising profit. The utility is interested for a totally different reason—that of extending the use of gas service—and that is the sole incentive underlying the utility's activities. With such entirely different motives animating each group, and yet with the acknowledged desire of each to work harmoniously and for mutual advantage, the problem becomes one of finding a common ground of co-operative endeavor whereby the activities of each interest may be profitably directed.

"I believe the principles of our Association will go far in establishing such a basis. They are not all-embracing, and in different localities, because of different conditions, will probably require modification. Consequently, they are submitted as guiding, and not limiting; it being felt that local discussions will promote a better understanding of the related and interdependent interests of each group. In some quarters there have been expressed urgent demands that the utilities entirely cease merchandising. This has been done in some instances with the result that the sales of dealers and the interests of utility companies have suffered alike. In my judgment, neither group of interests should seek to dominate the merchandising field to the exclusion of the other. I believe that cooperative relations developed on sound business lines which will give full consideration to the promotional requirements of the utility companies and at the same time give weight to the purely merchandising aspects involved, will be profitable to both, and that any other course is unsound. I believe further that any movement to deny to the utilities their inherent right to expand their service through stimulating the use of safe, efficient and improved gas consuming equipment,

should be vigorously opposed by the dealers on the very sensible grounds that to deny the promotional right of the utility is to destroy the market of the dealer.

"The statement of principles of the Gas Association is necessarily general in nature, as it would be impossible to make a detailed declaration that would fit the many and varied local situations that must develop throughout the country.

"These principles represent not only the official policy of the American Gas Association, but further, they have met with the approval of the leading executives of the gas industry. These principles are offered for your consideration, and if your association looks upon them with favor and will aid in their adoption in the various localities, such impetus as your association will give to the movement will be effective in eliminating unfair competition and in developing cooperative sales activities.

"In addition to doing everything possible to bring about the adoption of these policies by its member companies, the American Gas Association offers its services in bringing about the adoption of these policies in the case of individual companies wherever special situations may arise.

"The statement of principles is not regarded as the final expression on this subject, as conditions are subject to change from year to year, and the American Gas Association contemplates review of these recommendations from time to time.

"Those of you who are familiar with the work of national associations know full well that the movements undertaken by any national association will rise or fall depending upon the support it receives from local sources. And no national movement of the type we are discussing can succeed without the assistance that will come as a result of local meetings held by representatives of local utilities and dealers. At such meetings agreement can be reached as to the appliances still in promotional state, and those of a merchandising character, as this situation varies in different parts of the country.

"I have attempted to make clear to you what, in my opinion, are the

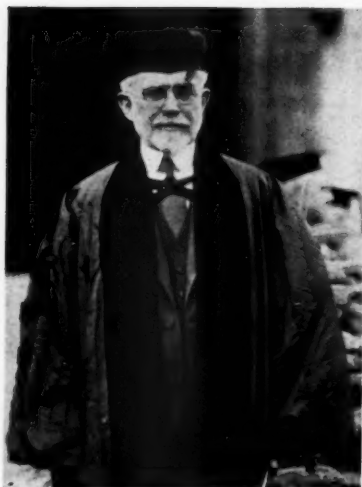
best methods of promoting mutual helpfulness to two industries which are natural allies. But if as an association you feel that you are unable at this time to adopt principles under discussion, I want you to know that it is the intention of the American Gas Association to proceed with the plan that I have outlined, and to do all in its power to correct, if and where they exist, any merchandise practices that are unfair to the dealer.

"The principles of the American Gas Association for promoting co-operative trade relations which I have just read to you, coupled with the indications of a willingness on the part of your Association, which have come to me in conversation with those in attendance at your Convention, represent in my mind immeasurable progress towards better relations between these two great trade associations, out of which each must derive lasting benefits.

"As with all progressive movements, the idea seems to take root more firmly in some sections of the country than in others. The same is true with individuals. Some can immediately see the value of the movement such as this, while others must be shown. Before the goal we have set for ourselves shall have been finally reached, we will probably meet with disappointments and some may become discouraged, but the plan must ultimately succeed, not because of its adoption by my association or its acceptance by yours, but because it is economically sound and essentially fair, and more important, it is necessary to the proper fulfillment of the proposition to which both associations are committed, namely, service to the public.

"Let me suggest that the greatest measure of success can be obtained only if the interested parties approach the matter in a spirit of co-operation, and a willingness to meet with an open mind any situation that may arise, but in our negotiations with each other, let us keep ever before us our obligation to serve, economically and conscientiously, the public whose fuel needs make possible the success of your business, and mine."

(Continued on page 377)



Henry L. Doherty

Henry L. Doherty Honored By Lehigh University

usefulness whose training may have been secured through other sources. Such a man we desire to honor today and to enroll among our alumni because of his remarkable achievements in the broad field of engineering and the sound leadership which he has exhibited in the modern industrial world.

"Mr. Doherty's education has not been that of the supervised and directed character of the college man. He therefore presents an excellent example to the youth of the country, to whom a college education may be denied, in showing that unusual ability, initiative and application may accomplish substantially the same end in securing an education and achieving success in the realms of science and engineering. Throughout his life Mr. Doherty has been a student and continues his education.

"Entering the service of the Columbus Gas Company in 1882 at the age of twelve as an office boy, he progressed through different stages until he became the operating engineer of the company at the age of twenty-four. Since then his activities in the oil, gas, electric and street railway companies have covered a wide field in various parts of the country and his responsibilities and accomplishments have been noteworthy.

"In 1905, he organized the firm of Henry L. Doherty and Company, and in 1910, the Cities Service Company—companies which manage and control a large number of public utilities of national importance.

"Apart from wise financial management of these extensive organizations, Mr. Doherty has made many valuable contributions to the economic utilization and conservation of our natural resources. These include numerous improved methods in the production and distribution of gas and electrical en-

ergy by which these sources of power might be rendered more economical and effective. His 'readiness to serve' plan of distributing electrical current is in almost universal use in this country. His improvements in the manufacture of gas have been so important as to be called revolutionary by persons who are competent to judge.

"He has been an outstanding leader in the fight to prevent the waste of natural gas and petroleum and to stabilize the oil and gas industry by means of the unit plan of operation of oil pools. His ideas on this subject, advanced at a time when the necessity of such a plan was not generally recognized, now form the basis for the most constructive programs being urged by both private commercial and government agencies.

"Mr. Doherty was one of the first to recognize the importance of training college graduates who desired to enter the service of the public utilities by a carefully prepared supervised program. Over 1,000 men have passed through the training schools of his companies, half of whom have remained to accept permanent positions.

"Mr. Doherty is a member of various organizations and has found time to serve several of the gas and electrical associations in an official capacity. He belongs to numerous technical and learned societies and has freely contributed to their transactions and received honors from them. His inventive ability is evidenced by the fact that he has taken out over 120 patents.

"Mr. President, I take great pleasure in presenting to you a man whom we delight to honor, a man of energy, achievement, and vision—a useful citizen."

In conferring the degree, Dr. C. R. Richards, president of Lehigh University, said:

HENRY LATHAM DOHERTY, president of Cities Service Company, head of Henry L. Doherty & Company, and member of the Board of Directors of the American Gas Association, was honored by Lehigh University at its commencement exercises with the honorary degree of Doctor of Engineering "in recognition of his distinguished contributions to the art and the science of gas, electric and petroleum production, distribution and utilization."

Mr. Doherty, who is usually thought of as a financier, first was recognized as an engineer of outstanding ability and who continues to devote much time to engineering subjects, has on two other occasions been the recipient of honorary doctor degrees.

In presenting Mr. Doherty for the degree, Dr. Benjamin L. Miller, professor of geology, made the following address: "Mr. President—on behalf of the Board of Trustees and the Faculty of Lehigh University, I present to you Mr. Henry Latham Doherty for the honorary degree of Doctor of Engineering.

"For over sixty years Lehigh University has been engaged in training men for the engineering professions and has justly taken pride in the accomplishment of its graduates. The university, however, does not limit its recognition of worth to its own graduates but has always sought as well to recognize merit wherever found and to honor men of ability and marked

(Continued on page 377)

Gas Househeating

THE gas househeating business may be roughly outlined as follows:

Prospects for Gas-Designed Installations

1. Those who desire the best and are able to afford it.
2. Those who own homes of the better class and who intend to live there for some time, and whose heating systems are old or poorly designed.

Conversion Burners

1. Those who rent homes of the better class and who think that perhaps at some time in the future they may build or rent a new home and rent or sell their present home.
2. Those who have efficient heating systems in excellent condition and who do not wish to scrap a good furnace or boiler.

Auxiliary Burners

1. Those who cannot afford at the present time gas for househeating during the entire heating season, and who wish to use gas for househeating during the fall and spring when it is so difficult to operate a furnace or boiler fired by a solid fuel.

Before starting any discussion of gas househeating, I should like to emphasize very strongly that the purpose of a gas company is primarily to sell gas to its customers for such purposes as will result in satisfaction to those using the product of the gas company. We are interested in the sale of gas to all our customers, whether rich or poor. I say this to emphasize that in gas househeating the sale of gas is the primary idea and should not be confused with profits from the sale of gas heated furnaces or boilers.

In the early days of the gas industry when an effort was made to interest people in heating water by gas, introduction was made by selling side arm water heaters which were not automatic but which had to be turned on and off by hand and

By FRANK C. TAYLOR,

Assistant Manager, Industrial Sales
Department, Rochester Gas and Electric
Corporation

which in many cases acted as an auxiliary to the furnace coil. We did not try at that time to sell storage water heaters heated by gas; as a matter of fact, they were not available but we were content to show the customers that water could be heated economically by gas. Following this period came the instantaneous water heaters and the storage heaters, thermostatically controlled, giving full and complete hot water service. In other words, we started with a Ford and ended with a Packard.

In contrast to this, in gas househeating we started with a boiler or furnace which would give complete heating service, with thermostat, 8-day clock and automatic pilot and installed a new furnace designed for the use of gas. This is the Packard of househeating, or if you prefer some other high class car you may substitute its name. In trying to sell installations of this character, we ran up against sales resistance. The cost of the complete installation perhaps was too high. Some customers had well designed heating installations which they did not wish to scrap and as a result the conversion burner was developed. Just as in the automobile industry, the middle priced car was developed.

Up to the present time there has been very little attention given by the gas companies to the low priced gas burner which could be installed in an existing furnace or boiler, which would have moderate efficiency and which could be used as an auxiliary to the solid fuel during the fall and spring when it is so difficult to maintain a fire by means of a solid fuel.

Just consider for a moment what it would have meant to the companies selling gasoline if no cars had been sold below the price of \$1,200, or what I should call a medium priced car.

In the gas industry we have a

tremendous field for the use of our fuel by those who can afford not a complete heating service by gas, but service during the fall and spring months.

The argument may be raised that the sale of auxiliary burners will kill sales of conversion burners and designed installations, but can it be said in the domestic water heating field that the sale of side arm water heaters has killed the sale of gas for water heating or has killed the sale of storage water heaters. Rather I believe that side arm water heaters have shown our customers that water can be heated economically by means of gas; that the limited service obtained by this means is worth the cost and has created a desire in the minds of our customers for the complete hot water service given by a storage water heater.

I believe there is nothing mysterious about gas househeating that history and the methods followed in the gas water heating field, as well as the automobile industry indicate clearly that to any company selling a fuel, it is extremely important that they be able to cover the entire field and not simply sell to the so-called "upper class" because volume of sales is dependent more upon the lower four-fifths than it is upon the upper fifth.

An auxiliary burner for use in the fall and spring must have certain qualities in order that we may obtain a good volume of gas business:

1. It must be low in price.
2. It must be simple to operate as well as to install.
3. It must be easily removable so that when winter comes on the solid fuel may be used in the furnace or boiler.
4. It must be safe.
5. It must be reasonably efficient.
6. It must be durable and easily maintained.

Auxiliary burners have been used for some years in sections supplied with natural gas, but in general there has been no great demand for such a burner on the part of the central stations manufacturing artificial gas, owing primarily to the fact that most gas companies have started with the idea of heating homes during the

entire season and have not yet attempted to reach the lower class of customers. It is also perhaps due to the fact that some central stations had rather sad experiences in trying to heat homes during the entire heating season by means of inefficient torch burners installed in an inefficient furnace or boiler. Some companies I am sure still remember their unfortunate experiments. The auxiliary burner has a field all its own and should be considered only as an auxiliary to the regular heating fuel.

Since the first of June I have had an auxiliary burner in my hot air furnace and can say without reservation that I am very enthusiastic about it. When the house is cold I simply light the burner and throttle it by means of a simple valve so that I obtain the necessary heat. When heat no longer is required, all I have to do is turn off the valve. Contrast this with the experience in most homes heated by a solid fuel in spring and fall. During the first warm days of spring you allow the furnace fire to go out and then comes a cold spell and you build a fresh fire and roast. When your fire is nicely burning it becomes warmer outside and the house is uncomfortably hot, but you cannot kill the furnace fire even though you shovel ashes on top of the fuel bed. You try to carry a little fire and so often when the weather turns cold again, you find that it has gone out. You also find so often that there are no kindlings, that you have to chop fire wood, and then go through the cycle again of having a house that is too hot or too cold.

There are at the present time auxiliary burners on the market which are sufficiently efficient for use in the light heating months when the furnace or boiler is required to operate at but a fraction of its full capacity. It is true that these burners would not be efficient if you tried to heat the house in zero weather or even when it is around freezing temperature outdoors. But why make the burners do what they are in no way fitted for? By this I mean, an auxiliary burner should be intelligently applied and used. You may ask, "Why aren't there more auxil-

ary burners on the market? Why aren't more sold? Why don't we hear more about them?" The answer is, I believe, that gas companies manufacturing artificial gas have been too busy developing all heating season heating by gas and also without the cooperation and assistance of the gas companies it would be extremely difficult to get the wide distribution and volume of sales of such an auxiliary gas burner.

It seems to me that gas househeating has so far developed now that all gas companies could well afford to thoroughly investigate the possibilities of auxiliary burners for househeating.

Mr. Forward Honored By Prague Officials

DR. MILOSLAV HAVELKA, manager of the Prague Gas Works, gave a dinner in honor of Alexander Forward, Managing Director of the American Gas Association, at Prague, Czechoslovakia, the evening of June 11. Dr. A. Wrbanek, chairman of the Board of the Prague Gas Works presided. Those present besides Dr. Wrbanek, Dr. Havelka and Mr. Forward were as follows:

Dr. J. Spacek, Minister of Public Works of the Republic of Czechoslovakia; K. Zedlicka, Managing Director of the Prague Gas Works; Professor F. Schubz, of the Prague Polytechnic Institute; P. Kavanek, Alderman of Prague; J. Huchlik, Chief Accountant, Prague Gas Works; A. Holowber, Alderman of Prague; and Dr. Sobotka, Political Director, City of Prague.

New Office Building on Coast Is Opened to Public

A SPANISH type office building in Watsonville, California, has just been completed by the Coast Counties Gas and Electric Company, whose headquarters are in Santa Cruz, California, at a cost of \$60,000.

The building contains a spacious display floor with two large display windows adjoining. Directly off the display floor are model gas and electric kitchens. There is a large accounting room, district manager's office, rest rooms and a storeroom. There is also an employee's meeting room which may be used for cooking schools and demonstrations as there is a kitchenette attached.

The structure is both heated and cooled from a central natural gas heating plant, while water for the

entire building is heated by the gas and electric automatic water heaters connected in the model kitchens.

The Watsonville office building is only part of the construction work underway at the present time by Coast Counties Gas and Electric Company. Other activities include a half million dollar building program covering new electrical transmission line and new sub-stations for improvement of service in the southern division.

Other construction work includes the building of natural gas transmission lines from Walnut Creek to Danville and the Mt. Diablo Country Club, where distribution systems are also under construction.



Attractive home of Coast Counties Gas and Electric Company at Watsonville, California

Plan to Restore Part of Gas Street Lights in Nation's Capital

THE policy of most successful business men of analyzing the field, then confining their efforts in the direction where it will do the most good, seems to be the simple formula by which the Washington Gas Light Company plans to recapture a portion of the street lighting business in the District of Columbia.

For years efforts have been made to displace street lamps using gas by electricity. Not only in Washington, but in every major city in the United States, some gas lamps are being taken from the streets and boulevards in favor of electricity. It is presenting a problem similar to that which confronted the gas industry when home lighting became obsolete with the spread of electricity. But the street lighting business in Washington is not to be relinquished by the gas company so easily.

There is a limit to the use of gas in street lighting in the Capital, but there is also a limit to the spread of electricity in some sections. These sections are the suburbs and better residential districts, where soft lighting is preferable to the glare of electric lights.

It is in this field that Frank A. Woodhead, operating vice-president of the Washington Gas Light Company, hopes to place the new Welsbach light, manufactured by the Welsbach Street Lighting Corporation of America.

After an analysis of the situation and an inspection of the new lights,



Frank A. Woodhead, operating vice-president of the Washington Gas Light Company, explains the operation of the new Welsbach light to members of the Brightwood Citizens' Association, who later approved this type of light for residential sections in the District of Columbia. Left to right: C. J. Sincell, D. D. Ramsdell, Mr. Woodhead, L. F. Randolph, Elmer Johnson and Charles W. Ray.

Mr. Woodhead was confident that they would be approved by the citizens and engineers in charge of street lighting in the District, so he arranged an exhibition of 12 new lights on Jefferson street, in one of Washing-

ton's developing residential sections.

District of Columbia officials and representatives of the Citizens' Association in that area inspected them and recommended that they be approved

(Continued on page 367)

Growth Possibilities In the Gas Industry*

THE year 1930 will undoubtedly go down in economic history as a period filled with grave and important problems for the management of all branches of industry. In common with most other forms of economic and industrial enterprises the gas industry also had its problems to face during that year. Yet, throughout the nation as a whole, it managed to approximate its record-breaking achievements of the previous year, 1929. This record is particularly impressive when the performance of other fuel industries is considered. For example, the production of bituminous coal declined some 14 per cent during 1930, anthracite coal production dropped nearly 5 per cent, crude petroleum output was down 11 per cent, coke production down nearly 15 per cent while the production of electric power declined by nearly 2 per cent from the levels established in 1929.

Before passing from this brief outline of the performance of the gas industry throughout the country at large to a consideration of more detailed developments within your own state of Michigan it must, of course, be realized at the outset that the situation of the gas industry in this state differs in many fundamental aspects from that characterizing other sections of the country. It will be obvious that the most pronounced difference relates to the highly industrialized nature of this region. This factor is therefore important in interpreting any data relating to the gas industry of this state. It is perhaps best illustrated by the statement that in 1929 about 27 per cent of your entire sales of gas represented industrial-commercial uses. Since you are relatively more dependent upon this industrial load than other sections, it is but natural that the pronounced cur-

By CLIFFORD E. PAIGE,
President, American Gas Association

tailment in industrial operations throughout the country as a whole has found marked reflection in the gas industry of this state. Nevertheless, in spite of these factors, total sales of gas for all purposes in the state, aggregated some 36 billion cu.ft. in 1930. This was a decrease of only 5 per cent from the record-breaking total established in 1929. As was to be expected, most of these declines occurred in gas sold for industrial and commercial purposes, the decline in this class of business amounting to nearly 15 per cent. There was also a small loss in domestic sales amounting to about 2 per cent. Outstanding progress during the year, however, was indicated by an increase of more than 12 per cent in sales of gas for house heating—gas sold for this purpose in 1930 representing more than 2½ per cent of the total sales of gas for all purposes.

At the end of 1930 more than 700,000 customers were served by the manufactured gas companies of Michigan. Domestic gas sales constituted nearly 73 per cent of total sales, industrial-commercial 25 per cent and house heating 2½ per cent.

In the field of production the same trends characterizing the industry at large appeared to find reflection in your state notably a perceptible decline in the amount of gas produced by the utilities themselves and a corresponding increase in the amount of gas purchased,—for example, during the year the production of water gas declined 26 per cent, coal gas produced, declining by some 11 per cent. The only increase in gas production was registered in coke oven gas which increased nearly 3 per cent during the year. In contrast to this, coke oven gas purchased from non-utility plants or from sources outside of

the industry itself registered a gain of nearly 15 per cent.

You will be interested to know that these same general trends have continued throughout the first four months of the current year. The unsettled state of business and industry in this highly industrialized region is reflected in a decline of nearly 7 per cent in total gas sales for the first four months of 1931 as compared with the corresponding period of the preceding year. Domestic sales during this period underwent a marked contraction, the decrease amounting to 7 per cent while industrial-commercial sales for the four-month period declined some 13 per cent. During this same period the production of water gas declined nearly 20 per cent and retort coal gas almost 7 per cent, so that the total gas produced by the utilities themselves decreased about 12 per cent. Coke oven gas purchased, however, continued to increase, rising from 4,272,000,000 cu.ft. during the first four months of 1930 to 4,371,000,000 cu.ft. during the corresponding period of 1931 at a gain of some 2 per cent.

From the above data, then, it would appear that while the gas industry in this state has suffered along with all other industries, nevertheless in comparison with most major lines of activity it has good reason to be proud of the stability which has been exhibited during this most trying period.

It is doubtful, however, if the industry could have weathered this period as well as it did were it not for the manner in which companies in this state have modernized and adjusted their rate-making policies to conform to present-day economic conditions. For example, six years ago the total number of general service or domestic rates effective throughout the state numbered 65. At that time, in addition to the 65 domestic rates, there were only six

* Address delivered before the Michigan Gas Assn., at Mackinac Island, Mich., June 30, 1931.

rates designed to secure special classes of business and all of these six rates were formulated for industrial users. At that time, there were no house heating, commercial, water heating or similar forms of rate schedules designed to secure these special classes of business. Today, however, the contrast is striking, for while the number of general service or domestic rates is now 76, the total number of rate schedules in effect throughout the state aggregates 219. This indicates a keen realization by the Michigan utilities of the necessity for providing special rates for particular classes of business if the gas industry of the state is to expand into its full share of usefulness and service to the public.

It was mentioned previously that six years ago no house heating rates whatever were in effect whereas today there are more than 50 such rates. While six years ago the number of industrial rates was only six, today there are 46 such rates. A most noteworthy feature of Michigan rate-making has been the development of the special domestic rates available to customers using gas for other domestic purposes in addition to cooking. There are now 25 of these special domestic rates in effect throughout the state. In many cases these rates are available only to customers using gas for water heating, and in other cases rates are available to customers using gas for water heating or refrigeration in addition to other domestic uses. In all cases, these special rates apply to the entire gas consumption of customers taking service under these schedules. These rate forms have been most beneficial in securing an increased use of gas through a wider distribution of such appliances as water heaters and refrigerators.

Another aspect of the rate situation for which the Michigan utilities are to be congratulated is that they have not only greatly increased the number of rates designed to secure special classes of business, but they have been in the very forefront of progress in introducing rates of a promotional form. Such rates being more equitable both to the consum-

ers and the company, should assist materially in expanding your sphere of usefulness to the people of this state. For example, six years ago out of a total of 65 rates available for domestic or general service uses some 23 were of the obsolete straight line form under which the customer paid the same price per M cu.ft. no matter how large or small his consumption might be. Today, however, there are only five of these rate forms still in effect. As you are doubtless aware, one of the rate forms which has come into great prominence during the past few years and found widespread acceptance both among consumers and the utilities themselves is the so-called minimum bill block type of rate consisting of, for example, a charge of let us say a dollar for the first 200 cu.ft. or less and the remainder of schedule with a block commodity charge. Six years ago there were only six of these rate forms in effect in the state whereas today they constitute the largest single group of rate forms amounting to 33 schedules out of a total of 76 available for general service for domestic uses. This progress in rate-making practice might perhaps be summarized by the statement that six years ago there were only 12 rates in the entire state which could be called truly promotional in form. In contrast with this there are today some 40 rates which might definitely be classed as of the promotional type. In other words, six years ago only 18 per cent of the total rates available for domestic service were of a promotional type while at the present time more than 53 per cent of the Michigan rate schedules of Michigan gas utilities are of the promotional type. This constitutes a record of progress and improvement in the practical application of sound rate-making economics which has hardly been equalled in any other section of the country.

Altogether, the gas industry in America has made excellent progress in recent years. Particularly is this true in the departments of technical and scientific research. Most notable of recent developments in research, pointing to new and more extensive

uses for gas, has been the progress made in air-conditioning and cooling, recently announced at the annual convention of the Natural Gas Department of the American Gas Association at Memphis, Tenn., and the perfection of the gas-air jet equipment for industrial boilers, which gasifies bituminous coal smoke, thereby increasing the efficiency of industrial coal and eradicating the pall of smoke that now belches forth from the industrial stacks of our large cities.

In addition to these two outstanding contributions to improved and enlarged gas usage are the more than a score of technical and industrial research projects, under the direction and sponsorship of the American Gas Association, which are going forward in the leading technical schools and universities of the nation; the committee research in pipe-joints and mixed gases, including propane and butane, at the Association Laboratory at Cleveland; pipe corrosion studies in cooperation with the United States Bureau of Standards; and studies in furnace water coils, as well as the many projects in connection with appliance approval requirements, also in progress at the Laboratory.

The enormously increased production of natural gas in the past few years, while it has brought a degree of romance to our business, never before enjoyed, has also brought us a long train of problems, including those of long-distance transmission, inter-state transportation, the development of forms of rates that will more equitably serve both the patrons and the utility. Through the extension of this service many small communities are now being served that could not have been so served with manufactured gas. In many larger communities where the costs of transportation from the producing field are not too great, the public is enjoying the service of a gas of higher heating value at no increase in rates per unit of heat and in some instances at a marked decrease in the rate per unit of volume. Some of these problems arise from the launching of natural gas projects not justified by economics and not warranted by the existence of adequate

markets. That nature makes no charge for natural gas in the ground does not mean that it can be produced, transported and distributed to the consumer's premises at little or no cost. Neither does it mean that it can be transported over extremely great distance at a less delivered price per unit than manufactured gas. Millions of dollars of investment in pipe lines and compressor stations alone, are required, to say nothing of the production costs. When brought to a city, all other costs, such as distribution, maintenance of mains and services, general supervision, and the normal fixed costs, go on just the same as in a city using manufactured gas.

At present the supply of natural gas is large and it should be used wherever the economics of the situation warrant it, either as a sole source, or, as is generally the case at greater distances, as a mixing or enriching agent for manufactured gas. In industrial and large volume house-heating uses it finds its greatest efficiency, and these uses should be encouraged wherever the results will justify. A recent comparison of the relative costs of natural gas and hydro-electric transmission made by the engineer of the Railroad Commission of the State of California brought forth the statement that the "cost of transmitting one million horse-power hours of energy in the form of gas is \$65, while the cost of transmitting the same amount of energy in the form of electricity is almost three times as much; namely, \$190."

While our competition, particularly with oil, which is at an abnormally low price level now, is severe in some parts of the country, and even though our competition is now organizing for a more aggressive selling campaign than ever before attempted, I believe that except for the time being, and in certain localities and situations where gas, neither natural nor manufactured, can now be economically served, every sale of automatic fuel use will eventually accrue to the benefit of the gas business, and that despite the availability of other sources of fuel supply, including our present great wealth of natural gas,

the gas industry must continue to develop its skill in gas production and develop its interest in and use of the by-products of the carboniferous strata. Its potentialities in the industrial field will become increasingly greater through thoughtful and continued research directed to the further development of the fundamental facts of gas utilization and the production of more efficient industrial gas-burning appliances. With loyal support and cooperation of manufacturers, we are daily equipping ourselves more effectively to meet the competition of other fuels and in adding to our industrial load. That we have a basic and essential fuel, the most attractive and efficient appliances in our history, excellent and advancing knowledge of proper rate-making, the finest technical skill, sufficient financial strength, adequately informed leadership, and consequently the power of individual and collective growth, is common knowledge among us. Yet this knowledge is not enough; it is our constant obligation to continue to adequately inform our present and future customers regarding our ability to serve them more effectively and efficiently. We have evidenced a notable advance in the scope and conceptions of our advertising and sales promotion opportunities, yet our efforts in this behalf are still extremely modest and out of proportion to those employed by other industries in the same class.

This awakened or rather greatly intensified interest on the part of every department of our business is apparent in the general attitude of every man in the industry who realizes that we are no longer selling so many units—cubic feet or therms—of gas, but that we are selling or holding out for sale, the most ideal, convenient and flexible of all heating services for both the home and industry. This significant spirit of alertness is being evidenced by the commercial and industrial sales personnel of our business which is preparing itself to meet the increasing competition and complexities of our time.

Employees and salesmen and executives of the industry—upwards of

12,500—are pursuing practical training under the guidance of the American Gas Association in every form of domestic and industrial gas salesmanship and sales management, as well as in our newest educational course for "Employee-Customer Relations," which has in but a few weeks since the announcement of its availability had an enrollment in excess of 6,000 men and women of the industry.

The activities of the sales and advertising departments of the industry are being more closely coordinated. The problems of "trade-dealer cooperation" are receiving the earnest attention of a committee of leading executives of the industry, as well as serious study and consideration of member companies, and undoubtedly from these studies will come a workable plan for the solution of this perplexing, though natural outgrowth of our rapidly developing sales program.

The collection and interpretation of the statistics of our industry continues to be one of the most important duties of its national organization. As our industry expands in sales and usefulness to the public this statistical work must, of necessity, be enlarged to have available at all times accurate and adequate information concerning the industry.

Certainly, with the record of progress we have left behind us, we can consider, as our future plan of growth, nothing less than the continued development of all of our facilities of technical and industrial research; our program of education for the executive and employee personnel of the industry; a more orderly and thoroughly planned and coordinated, hence more effective sales and advertising program; cooperation for mutual benefit with other industries and trades whose interests are allied with or related to ours; the courage and wisdom to deal with unwise legislation and with malicious or uninformed political attack; and increasing mutual confidence both within the industry and with the public in the indispensability of our product and in our ability to continue to meet the challenge of changing conditions.

A New Slant on The Other Fellow's Job



R. S. Carter

A year ago the Employee-Customer Relations Course, conducted under the direction and supervision of the American Gas Association, was approved by the Educational Committee of the Mal-

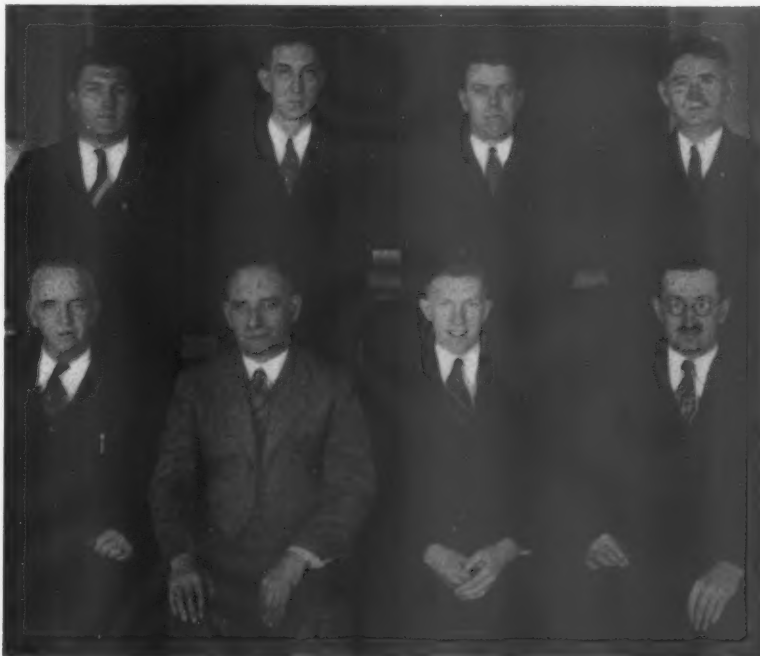
den & Melrose Gas Light Company, and the Malden Electric Company, Malden, Mass.

The management of both companies investigated the contents of the course and concluded that it contained valuable material, and by cooperative study, the employees of the gas and electric companies could gain a great deal of information that would enlarge and improve customer contacts.

Our total voluntary enrollment, made up of 126 employees, was divided into nine groups, each headed and controlled by a leader. The personnel of the groups was split up so that we had at least one student from every department of both companies studying the course.

Enrollment in the course was purely optional and it is interesting to note that many employees from the construction and plant departments, who from the nature of their daily occupation do not come in contact with our customers, became members, and contributed a great deal of sound judgment and common sense during the discussion of the various problems

By R. S. CARTER,
Supt., Malden & Melrose Gas Co.



Group leaders who conduct the A. G. A. Employee-Customer Relations Course of the Malden & Melrose Gas Light Company, and the Malden Electric Company, Malden, Mass. They are as follows: Standing, left to right—Harold M. Jones, Chester McKinley, J. Albert Yates and David Flavia. Seated—Chester F. Connelly, Joseph Dwyer, Paul W. Milliken and Frank Dow

brought before the monthly meetings for opinions and an ultimate answer.

From my observation, one of the outstanding practical aspects of the course has been the close contacts made between members of the various departments taking part in the study

and discussion of the six units. The group meetings brought out in clear-cut fashion the real necessity for the existence of all departments, and the thought was many times expressed; while it may be said that a department head is held directly responsible for



Group of employees of the Malden & Melrose Gas Light Company and the Malden Electric Company, who are active students in the A. G. A. Employee-Customer Relations Course

the operation of his branch of the business, both he and his entire force are interested and responsible to a marked degree for the success of the whole undertaking and should, therefore, be keenly alive to anything that will further the general interest of the company.

We obtained full and free discussion from all members of the groups of any and all matters pertaining to the affairs of the company, affecting our customers. Such discussions were frank and friendly. Suggestions offered by the employees were not considered as criticism, but as being made in a spirit of sincere endeavor to improve in any way possible the service we strive to render.

Personal feelings never entered into any questions concerning the problem under discussion. Everyone associated with the classes, regardless of the position occupied, was expected and urged to make suggestions that would in his or her opinion be to the customer's advantage. It was pointed out, the fact that a recommendation is not adopted should not discourage one from making other suggestions, as there may be good reasons why a particular recommendation cannot be put into effect.

An effort was made to explain to the employees making suggestions; if such suggestions were considered impractical, why, their recommendations could not be adopted and put into force.

A further result of the Employee-Customer Relations Course, gave everyone connected with it a little different slant on the other fellow's job, and a more comprehensive knowledge of the business and methods employed when dealing with our customers.

Summarizing our experience with the Employee-Customer Relations Course, it may be of interest to note briefly the reaction of some of the group leaders at the close of the study of the fourth unit.

One said: "We have derived a great deal of benefit from the group meetings, and I believe one of the greatest values of the course lies in the fact that it certainly helps to create goodwill among the employees, as well as enabling them to create better goodwill among the customers."

"Having talked personally with

many of those enrolled, I know there is a great deal of interest taken in studying the books and answering the questions. What is found in the units would take years of experience to learn."

Another said: "My group is unanimous in its opinion that the course has made clear the value of agreeable customer contacts and has raised the standard of our customer relations."

It is our purpose to continue the work started several months ago when our educational activities begin in September. A definite follow-up plan will be inaugurated and carried on throughout the coming association year.

Germans Prepare Course on Chimney Problems

THE German gas organization separates its utilization department under practically independent management, and it is one of the functions of this more or less separate organization to prepare useful data in all phases of utilization.

It has just prepared, in connection with the Union of Chimney Sweeps, a short course on the problems of chimneys for gas appliances. Lest the term "chimney sweep" be misunderstood, it may be stated that this organization includes all who are concerned with chimney construction, as well as the peculiar maintenance work of the chimney sweep himself.

The booklet, after some brief description of gas appliances, shows some splendid pictures giving the reader a clear concept of what the effect of wind is on the house. There are about fifty-five pictures showing different kinds of houses with varying winds, and the resultant wind lines which are developed. This, as far as is known, is the first time that this complete pictorial representation has been made.

Following this there is a full section on the effect of the chimney on various gas appliances, design of back-draft diverters, and the sources of trouble in chimneys.

The final chapter of the book deals with suitable special installations for flues intended only for gas appliances.

It is interesting to note that the Germans are insisting that a back-draft diverter be employed on all gas appliances; that the vent connection to a chimney flue slope upwards toward the chimney; that if it has to pass under a building beam, the flue should not be trapped; and that an installation in which the flue pipe is just extended outside of a building wall is indicated to be faulty.

The work is published by Das Gasverbrauch, Geisbergstrasse 3/4. Berlin.—C. G. S.

Major Forward Speaks For All Nations

ALEXANDER FORWARD, managing director, American Gas Association, spoke for all foreign nations represented at the annual convention of the German Gas and Water Association in the Sudpark at Breslau, Germany, June 8. He was introduced by President Muller, and his remarks were translated into German by Dr. H. Schutte, of Bremen, immediate past president, and the first honorary member of the A. G. A. in Germany.

What's Within the Gas Range

An illustrated booklet on the modern gas range—full of unbiased, general information which should bring about a better understanding of gas as a cooking fuel, and an appreciation of the modernity of the range.

Copies of the booklet may be secured in any quantity at the following costs:

10¢ each	up to 100
9½¢ each	100 to 500
9¢ each	500 to 1000
8½¢ each	1000 to 2500
8¢ each	2500 and over.

Company name may be imprinted on the back cover for slight additional cost.

For
Further Information
Write to

American Gas Association
420 Lexington Avenue
New York, N. Y.

A. G. A. Officials Attend First International Gas Meet

AT the First International Gas Conference, held in London, England, June 3, in connection with the Sixty-Eighth Annual Meeting of the Institution of Gas Engineers, announcement was made of the organization of the International Gas Association, to which most of the countries of the world have already adhered.

The *Union Internationale de l'Industrie du Gaz* has as its first president Herr Dipl. Ing. Fritz Escher, of Zurich, Switzerland and since it is provided that the triennial meetings shall be held in the country of the president, Herr Escher will welcome the association in Zurich in 1934.

The general secretary is Uono. P. Mougin, general secretary of the French Gas Association, and its offices are at 21 Rue Blanche, Paris.

The International Gas Union will consist of the Gas Associations of the different nations, each of which will

be entitled to nominate two members on the Council. The President remains in office for three years, and has power to fix the headquarters of the Union and appoint a general secretary. In addition to providing a center for the acquisition, collation, and distribution of technical and other information concerning the gas industry and the promotion of its well-being generally, the Union will hold conferences at intervals of three years, the organization of which will be undertaken by the Gas Association of the nation in whose country the Conference is held.

Overseas delegates who attended the International Gas Conference in London were as follows:

Clifford E. Paige, President, American Gas Association.

Alexander Forward, Managing Director, American Gas Association.

Henry F. Gibb, Washington Gas Light Company, Washington, D. C.

Sir Arthur Duckham, Australia.

Mon. H. de le Paulle, Brussels, Past-President, *Association des Gaziers Belges*.

Harold Greig, Assistant Works Manager to the Tramway, Light and Power Company of Rio de Janeiro.

W. T. W. Pilbeam, Assistant General Manager of the City of Santos Improvement Company, Brazil.

J. W. Brown, Engineer and General Manager of the Barbados Gas Company, Ltd., British West Indies.

F. J. West, of Manchester, representing Canada.

S. Barker Johnson, Engineer and Manager of the Colombo Gas and Water Company, Ltd., Ceylon.

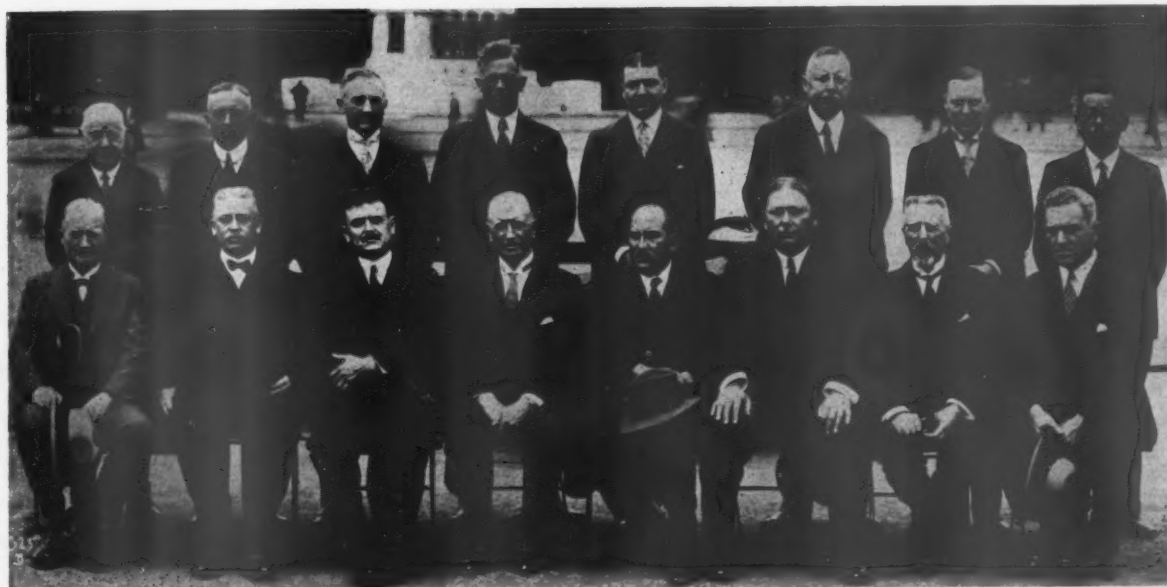
M. de Hanislav Landa, Lecturer of Fuel Technology at the Czech Polytechnical High School of Prague, Czechoslovakia.

A. Baril, Paris, Past-President, *Association Technique de l'Industrie du Gaz en France*.

O. Guillet, Besancon, Vice-President, *Association Technique de l'Industrie du Gaz en France*.

P. de Lachomette, Paris, Vice-President, *Union Syndicale de l'Industrie du Gaz en France*.

(Continued on page 376)



MEMBERS OF THE COUNCIL OF THE INTERNATIONAL UNION

Front row, left to right—G. H. Hultman, Stockholm; H. Schütte, Bremen; A. Baril, Paris; H. E. Copp, Hull; F. Escher, Zurich; P. de Lachomette, Paris; H. de le Paulle, Brussels; C. E. Paige, New York.

Back row, left to right—W. E. Price, Hon. Sec. Inst. Gas E.; G. A. Brender à Brandis, The Hague; Alexander Forward, New York; G. E. H. Zollickofer, Zurich; P. Mougin, Paris; K. Lempelius, Berlin; J. R. W. Alexander, London; H. Morioka, Kobe.

New Orleans Public Service Conducts Employee's School

IN order to provide that special quality of training which is not easily obtained in the existing educational institutions, yet is essential to the development of an efficient worker, New Orleans Public Service, Inc., has established an evening school. It was not intended to supplant the existing night schools and colleges, but rather to supplement them, thus giving the employee an additional opportunity to secure instruction in subjects closely related to his work. The courses offered, while general in scope, are so designed as to meet the specific needs of the employees on the job. They are broad enough to provide a foundation for future development along any line the individual might choose to follow.

The Evening School was started in October, 1926. During that session, 1926-1927, the enrollment reached 744. There were four classes in practical electricity and three in shop arithmetic. During the second year of operation there were 749 enrolled, and at the close of that session, June, 1928, 173 certificates were awarded. The next year saw a marked increase in the enrollment, which reached 1,227, and at the close of that session (June, 1929), the number of certificates awarded was 315. There was a still further increase in the enrollment during the session 1929-1930, as the number reached 1,307; the number of certificates awarded was 374. During the session that just closed on June 19, 1931, the total enrollment was 1,677, and the number of certificates reached 760.

The closing exercises for the Evening School were held on June 19, 1931. On that same date, the advertisement reproduced opposite was placed in all the newspapers. The purpose of this advertisement was to bring to the attention of the public the intensive training program conducted by New Orleans Public Service, Inc.

The exercises were held at the Municipal Auditorium, where the certifi-

By A. J. SARRÉ,
Superintendent, Industrial Relations

icates were awarded by the president of the company, assisted by the vice-president. They proved to be popular with the public, as more than 5,000 people attended.

Enrollment in the various courses is purely voluntary. A few weeks before school opens, a bulletin, giving the date of the opening and listing the proposed courses, is sent to all employees.

In the development of the Evening School, every effort has been made to see that the courses met some definite need. It was not a question of inaugurating courses simply for the purpose of giving instruction which might be interesting, but it was felt that there should be a real demand for the course before it was given. Through discussion with the department heads, in which the various departmental problems were analyzed, it was determined just what courses would furnish training needed by the men in their particular departments. As a result of this analysis, courses were organized which satisfied a need.

There were in operation during the last session 59 classes, requiring the services of 37 instructors and covering 22 courses.

The course in introductory gas is a general course covering the production of the gas in the fields and its transportation and distribution to the consumers. It covers, in a general way, the early history of gas, and how it is located and obtained from the earth. It goes more into detail about the fundamental laws of gases, its transmission, pressure control, measurement, and final use.

A study is made of the component parts of New Orleans Public Service, Inc., gas distribution system. This system is traced from the city gate to the consumers' appliances.

This course combines the theoretical with the practical to give a knowl-

edge of the gas industry so that one may understand the equipment and operations used.

The textbook used for this course was prepared by the engineering division of the gas department.

Another interesting course offered is the blueprint reading course. In this course, the ability to read blueprints is developed, first, by making drawings from simple objects, and then, by making a study of blueprints from the gas, roadway, rolling stock and shops, and electric departments. The textbook, prepared for this course by F. P. Fischer, employment assistant, is unique in that it deals specifically with the problems met by those employed in the public utility field.

The course in business English was organized at the request of the women employees of the company. It includes such subjects as fundamentals of grammar; spelling, definitions, and pronunciation; letter writing; general secretarial duties; filing. The textbook used in this course was prepared by Miss Catherine Fitzpatrick.

The public utility accounting course covers all phases of public utility accounting from organization of a going concern to dissolution. This course, like many of the others, is built almost entirely around the company's operations and problems. A standard textbook, "Accounting Procedure for Public Utilities," by Bailey and Knowles, is used, but serves merely as a general background for the course. At each class the head of a department lectures on the chapter in the text which relates to his particular work. In this way the problems of the various departments are brought out, and their relation to the general scheme of things is emphasized.

The course in elementary principles of economics is a study of the factors entering into production, distribution, and exchange. It is an analysis of modern economic problems, and a consideration of the bases for their

solution. It is designed to lay the foundation for further study in economics, particularly from the standpoint of the public utility industry.

Courses offered are: Introductory electricity, transformers, street railway equipment (electrical and mechanical), alternating current principles, electric meters, electric metering methods, practical electricity, standard overhead line construction, general lighting, principles of machines, practical heat, elementary shop arithmetic, advanced shop arithmetic, elementary business accounting, intermediate business accounting, trainmen's mathematics and transportation problems.

The instructors in all cases are employees of the company.

A number of the textbooks used were prepared specially for the courses taught in our Evening School. This was found necessary, as there were no textbooks on the market that would satisfy the specific needs of our employees. These textbooks have the advantage not only of providing technical information, but also of supplying specific information regarding methods followed and problems encountered on the company's own property.

The textbooks that have been prepared by the instructors are: Introductory electricity, standard overhead line construction, electric metering methods, street railway equipment, blueprint reading, introductory gas, transformers, alternating current principles, general lighting, principles of machines, and business english.

In the main office building there have been provided four classrooms. These rooms are equipped with blackboards, tablet arm chairs or tables and chairs, and other classroom equipment. An assembly room with a seating capacity of 300 is also equipped as a classroom and used when needed. In addition, two outside classrooms are maintained, fully equipped. All of these classrooms are in constant use five nights of the week each winter from September through May.

Full laboratory and practical equipment is maintained in these classrooms for the courses in electricity, meters, lighting, and street railway equipment. In all cases the class work is made as practical as possible.

760 workers Graduate tonight

Trained to give Intelligent Competent SERVICE

Trained to SERVE New Orleans Citizens

TONIGHT, 760 employees of this Company will be awarded certificates in token of their completion of courses of study in the Public Service Night School. These courses embrace every branch of the Company's business... electricity, gas and transportation... and have been designed to fit the needs of practical workers, both men and women.

These opportunity classes, begun four years ago, have grown from three courses to twenty-two; from twelve instructors to thirty-seven (all Public Service employees); and from an enrollment of 744 to 1677. Every new course established was developed in response to a definite demand on the part of the employees themselves. In many cases textbooks had to be especially written by the men who taught the courses.

This educational program, fostered by a mutual desire on the part of both the Company and its employees, not only provides training for the immediate job, but also broadens the employee's perspective on the industry as a whole.

Each year, through this school, more Public Service employees will become better trained in the performance of their jobs, and so better able to serve you in a manner that will merit your approval.

New Orleans Public Service Inc.

Newspaper advertising tells public about New Orleans Public Service Employee's School

For the benefit of those employees who work at night, several day classes are conducted in order that these men may enjoy the same opportunities as those who work in the day.

The cost of operating the Evening School is borne entirely by New Orleans Public Service, Inc. At the starting of the course students are required to make a deposit to cover the cost of the textbook issued to them.

Upon satisfactory completion of the course, they are refunded the cost of the book, and at the same time allowed to keep the book.

The benefits resulting from the Evening School are many. It promotes company spirit by bringing men from the various departments into contact with one another. It gives them an opportunity to discuss their mutual problems.

Manufacturers To Hold Annual Meeting in Detroit, Sept. 17 and 18

AT a meeting of the Managing Board of the Manufacturers' Section, which was held at A. G. A. Headquarters on March 19, certain definite recommendations were presented to the board which embraced, broadly speaking, four definite avenues of activity:

- a. Elimination of unfair trade practices within the industry.
- b. The Cross Licensing of Patents designed to eliminate costly and time consuming litigation.
- c. The development of accurate statistical data.
- d. The general encouragement of a greater mutuality of effort and interest on the part of all manufacturers of appliances using gas as a fuel.

Included in the recommendations was a statement which suggested the formation of, for the purposes of organization efficiency, divisions which would deal separately and as a unit with the industries represented in the membership affiliated with our Section.

Following the unanimous approval and acceptance by the Board of these recommendations we engaged upon our new assignment with the organization of the Range Division as our first objective.

After some preliminary work, which was devoted largely to acquainting manufacturers with the purposes behind our new organization, a meeting of manufacturers who were to comprise the new division was held at White Sulphur Springs, West Virginia, May 7 and 8. This meeting was attended by over 80 per cent of the production of gas ranges in the United States.

The fact that the interest of the range industry is centered in this new movement is reflected in the fact that our committees, the chairman and vice-

By PHILIP O. DEITSCH,
Manager, Group Activities, Manufacturers' Section

chairman of this newly created division, are made up entirely of the principal executive officers of each company.

Following the organization meeting of the Range Division at White Sulphur, a Standards of Practice Committee was created which committee has already held one meeting and has a second meeting scheduled for August 31 at Headquarters.

At the White Sulphur meeting there was also created a Cross Licensing of Patents Committee for the Range Division. That committee has held one meeting at Detroit, on June 30, and has on the schedule a second meeting for September 16 to be held at the same city.

A third committee,—the Safety Ordinance Committee—has been appointed and is now engaged in its task of working for the enactment of safety ordinances designed to protect life and property and to deal cooperatively in all matters of a legislative nature that have a direct or indirect effect upon the best interests of their industries.

Following the organization of the Range Division, the next important branch of the manufacturing industry to be set up with our divisional program was the Space and Water Heater Industries. A joint meeting of these industries was held at Cleveland, Ohio, on June 25 and 26 and their organization, entirely similar to the structure followed in the Range Division, was brought about.

Committees to deal in the subject of Standards of Practice, Cross Licensing of Patents, and Safety Ordinances were created in each of these new divisions. The Standards of Practice

Committee of the Space Heater Industry and the Cross Licensing of Patents Committee of the same industry will meet in Detroit on August 4 and 5 respectively.

In the Water Heater Division the Standards of Practice Committee will meet at A. G. A. Headquarters on September 2.

Letters specifically dealing in the subjects to be treated by the Standards of Practice Committee by reason of the importance of the work of these committees to the future business conduct of each industry involved, was dispatched to each industry setting out some of the pertinent facts connected with the functioning of their Standards of Practice Committee.

For the immediate future our activities embrace the following: In addition to the annual meeting of the section which is scheduled for September 17 and 18 at Detroit, Mich., there will be two separate meetings of each of the Divisions within the Section, or a total of eight meetings throughout the period.

Organization of a Boiler Division, which division has included in its membership in addition to boilers, all gas-fired heating furnaces.

In addition to the above, an Accessory Division to include such items as thermostatic controls, lighters, cocks, valves, regulators, and so forth, in short, any principal accessory used in the production of gas burning appliances, is contemplated. The creation of the two divisions mentioned above is being undertaken at the direct request of members of those industries.

Based upon a survey yet to be made, we also contemplate the creation of a Meter Division to deal in the problems of all meter manufacturers who are regularly engaged in the production of both large and small volume meters.

We have also been requested by the Southern Association of Stove Manufacturers to address a special meeting to be called by them for the purpose of acquainting their membership with our new program.

Requests from manufacturers located on the Pacific Coast, who are engaged in the production of gas ranges, water heaters and space heaters, have also been received suggesting that the Manufacturers' Section arrange a meeting at Los Angeles for the purpose of thoroughly discussing and presenting the new program to the Pacific Coast manufacturers. A

meeting is, therefore, contemplated in response to these requests because of the importance of the West Coast manufacturers' adherence to the policies adopted by Eastern and Southern manufacturers. The producers of appliances on the West Coast are penetrating the eastern markets to a new and marked degree.

It is felt by the chairman of our Water Heater Division that a meeting of all coast appliance manufacturers would be productive of beneficial results to the entire manufacturing industry.

Sees A. G. A. Research Paving Way For Volume House Cooling

(Reprinted from *Heating and Ventilating*)

ANNOUNCEMENT was made some time ago that the American Gas Association will sponsor the installation and operation of gas-powered air conditioning plants in three residences during the coming months. At the recent Memphis meeting the details of the plans were announced. The whole project is naturally intended to promote the use of gas, especially as a means of increasing the summer load. Its initiation is very significant to the whole heating and ventilating and allied fuel and power industries.

"In the first place it marks the first attempt of a strong, well organized and well financed trade group to study residential air conditioning on a year-round basis, and to approach the questions of apparatus and operation from a fuel standpoint. Heretofore both apparatus and operating developments have been initiated almost altogether by apparatus manufacturing interests, who to a considerable extent have regarded questions of power and fuel as secondary.

"Next, the entrance of the gas interests through their association is almost certain to cause those interested in the competing fuels and in electric power to pay increasing attention to the developments and to likewise study the situation more intensively in order that they also may discover and apply the best possible means of utilizing their prod-

ucts. It is extremely likely, therefore, that we will soon be in the midst of a fact-finding period in year-round residential air conditioning with emphasis on the fuel possibilities and cost of operation.

"Many of the improvements in residential heating in recent years can be traced to the fuel interests. Now we may very easily see the story repeating itself in the application of year-round conditioning to these buildings. The field has rich possibilities both for fuel and power and for apparatus. Everyone seems agreed that the application of artificial air cooling to residences will soon be with us in earnest. Evidently the gas interests propose to be in a favorable position fortified with information in their own possession.

"The report presented at the recent meeting is also of interest in that it recalls what has been evident for a long time, viz.: that it is not necessary to cool air to the dew-point temperature in order to dehumidify it. The dew-point method has been practiced so commonly in air conditioning applications, however, that probably many have overlooked the fact that alternative methods are available. This merely serves to illustrate that when examined from a fuel standpoint air conditioning methods take on peculiar aspects.

"Existing practices in the end conditions of relative humidity desirable

for residential spaces are also boldly questioned. It seems that those close to the project feel that perhaps it is quite possible to be comfortable in air which is not held at the humidity often advocated. The tests should yield interesting data on this point.

"It is too early to form any conclusion as to what the tests may bring forth but certainly every one even remotely interested in the problem of year-round residential conditioning should keep his eyes on the project. It may easily prove to be the initial step in a train of events which will bring about the long-predicted household cooling as a volume proposition.

"Regardless of what the outcome of these particular tests may be the gas industry is to be commended for its initiative."

This project is one of the outstanding activities of the American Gas Association Committee on Industrial Gas Research.

Are You Wearing the A. G. A. Pin?

These small emblems, designed in blue and gold, are unusually attractive and durable. Price \$2.

MAIL THE COUPON

AMERICAN GAS ASSOCIATION,
420 Lexington Avenue,
New York, N. Y.

Here's my check for \$2. Please send me an A. G. A. Membership Pin.

Name

Address

City

Enameling Mechanized

By W. O. OWEN*

ONE of the latest and most economical installations for applying and burning vitreous enamel on to steel is a furnace with two overhead traveling conveyors which extend through the furnace and loop back on the outside. By equipping the furnace with temperature controls the unit becomes automatic and continuous in operation. The dipping, spraying, drying and brushing units are placed along the exposed portions of the conveyors so that all phases of the process are concentrated and conveyorized. The economies affected are readily apparent.

One of these installations is at the plant of the Peerless Enamel Products Co., Belleville, Ill., which conducts a jobbing business for stove and other manufacturers. This plant does a very large business which it conducts on a mass production basis and some very unique set-ups have been devised to speed up the processing and handling of the work. The enameling set-up was designed and built by the Surface Combustion Corp., Toledo, Ohio, the furnace being the Beemack type.

This furnace is of the counterflow type, heated with gas, is constructed of brick encased in steel and is designed for more than 1,000 sq.ft. of ware per hour. The outside dimensions are 40 ft. in length, 12 ft. wide and 8 ft. high, the walls consisting roughly of 9 in. of firebrick and 13 in. of insulation. It is divided into two separate heating chambers, longitudinally, each with an overhead conveyor carrying its load through in a direction opposite to the travel of the other, and returning outside of and parallel to the furnace.

These conveyors are of the overhead monorail type, are supported on a steel framework just above the furnace and carry long tools which extend down into the furnace through two narrow slits in the roof, and the

* Mr. Owen is Chicago District Manager of the Surface Combustion Company.



Continuous gas-fired enameling furnace consisting of two auxiliary dryers for stove parts. Above—Front view showing both chambers and dryers on either side with one continuous conveyor feeding each furnace chamber and dryer. Below—Close-up view of side of furnace and one dryer

work is suspended from these tools. The conveyor chains operate on large sprockets which are motor driven through speed reduction units so that the heating periods can be regulated by controlling the conveyor speed. The

chains pass along over the top of the furnace in a special patented air-tight steel structure, separate from the brickwork, which both prevents the heating of the chains and loss of heat through the tool slits.

Each loop conveyor is 73 ft. long and 10 ft. wide from chain to chain and extends $16\frac{1}{2}$ ft. beyond each end of the furnace. Opposite the center of the furnace, on each side, is a dryer, utilizing the waste heat from the hot zone, through which the conveyor passes. The dip, spray and brush units are placed along the conveyors and the work passes through the dryers, after the coats have been applied, so that it can be brushed or edged before entering the furnace to be vitrified.

Each longitudinal section or chamber of the furnace is divided into five sections, known respectively as heat interchange, preheat, high heat, heat interchange and cooling zones. The high heat zones occupy the center section of the furnace, and are $9\frac{1}{2}$ ft. in length and contain alloy muffles. The muffle in each hot zone extends through the preheat zone and terminates in a flue which extends to the dryer and the waste gases from the dryer are exhausted through a stack.

The hot zone on each side is heated with 6 low pressure, water cooled, gas burners, set in the outer wall and firing into the muffles. The Surface Combustion principle of gas-air proportioning, so that any furnace atmosphere can be had automatically and continuously is employed. A duct carrying air under pressure extends along the center of the top of the furnace. This air is fed into the air-tight structure or hoods surrounding the conveyor chains, at just the right pressure to keep the heat of the furnace from rising through the tool slots.

The dryers are each 14 ft. long, 4 ft. wide and 6 ft. high. They are constructed of brick and open at the top

but are hooded so that the products of combustion pass through, from the bottom to the top, and out the stack. The conveyor, tools and work pass directly through. The openings at each end of the furnace are not closed with doors as the operation is continuous, but the heat of the furnace is kept in, and cold air prevented from entering, by a curtain of air. Hot air is sucked from the furnace by fan into a duct which ends in a long, narrow mouth just under each opening and on the outside. This air is forced over the opening in a curtain and is sucked into other ducts, with hoods just above the openings, to be exhausted into the stacks.

The operation of this unit is as follows. The ground coat is dipped on in the tanks, and the work hung on the conveyor which carries it through the dryer and then the furnace where the enamel is burned on at 1620°F. , the burning period being $3\frac{1}{2}$ minutes. As it emerges from the furnace an operator removes the work, sorts it out according to the color coat it is next to receive and places it on trucks. These trucks are rolled around to the opposite end of the other conveyor and hung on the tools. The work is sprayed as it passes through the spray booths, with the first white coat, which is dried in the dryer. As it emerges from the dryer operators remove the ware, brush the dried enamel from the edges and replace it on the conveyor, which carries it through the other side of the furnace.

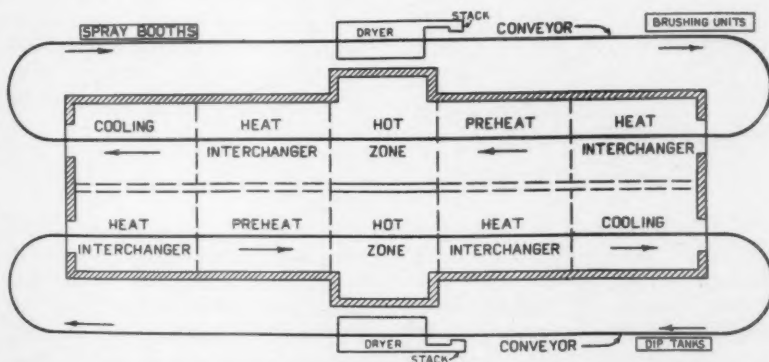
When the work comes out of the furnace it is sprayed with the second coat, dried, brushed and is carried through the furnace again. These two coats are vitrified at $1,520$ and $1,540^{\circ}\text{F.}$, respectively, and the time consumed in burning is $2\frac{1}{2}$ minutes each. The hot work from the high heat zone, traveling parallel and close to the cold work entering, gives up a large portion of its heat to the cold work. The cold work is preheated, in this manner, so that a great economy in fuel utilization is accomplished. This is the counterflow principle.

The firing system is provided with temperature controls so that the desired temperature is always maintained, automatically, and without the attention of an operator. Recording pyrometers are also used which keep accurate charts of any and all fluctuations in temperature. All colors are used in this work and the furnace temperatures and burning periods are regulated to suit.

One of the unique devices used in this plant is a machine for giving the enameled steel sheets a wood grain finish. This consists of a 14 in. steel roll, 4 ft. long, covered an inch deep with rubber, the surface of which carries the grain imprint. This sets above a table so that the sheets can be passed between and receive the graining as the roll moves over them. Ink is fed on to this roll by a series of small rolls, one of which is partially submerged in a trough of ink, the liquid being transferred from one roll to the other and finally to the large roll, by rolling contact only. To obtain a grain finish the work first receives the ground coat which is burned on. It then receives a coat of walnut colored enamel which is dried in the dryer, brushed and grained and then burned on.

This furnace installation reduces labor and fuel costs materially and speeds up production. It also reduces "rejects" to an almost negligible quantity and a much smaller floor space for a given output of enameled ware is required as compared with the periodic type of furnaces.

This company buys its frit but grinds it in their own pebble mills and makes up the different enamels at the plant. There is a large pickle department where the steel is cleaned and a sand blasting department for the cast iron ware. There is another conveyorized furnace for burning on enamel of almost equal size. In fact this plant is equipped for mass production on a large scale.



Plan view of furnace showing spray booths, dryers and brushing units

Southern California Proud of Natural Gas Bureau Exhibit

TAKING what may properly be considered one of its biggest strides forward, the gas industry in Southern California points with justifiable pride to the latest move on the part of the Southern California Gas Company, the Los Angeles Gas & Electric Corporation, and the Southern Counties Gas Company, which through the efforts of their Natural Gas Bureau, have established the New Industrial Gas Equipment Exhibit and Offices. The first move in this direction saw the Bureau signing a long-term lease on a large and attractive building at 815 East Washington Street, Los Angeles, where it at once set about on the installation of scores of large and small heavy-duty gas burning appliances. The Bureau has given to the southland, for the first time, a place where industry and commerce may go and see at first hand the extent to which natural gas is being utilized.

The Natural Gas Bureau is not a new organization, but has been ably functioning for several years. The design and installation of many creditable exhibits in various Southern California shows, fairs, and expositions have been successfully carried through by this body. Under its direction, many food demonstrations have been given to the women of southland communities. But in its newest responsibility—the Natural Gas Bureau—shows promise of providing a far more lasting and beneficial service than before rendered.

At the Bureau's new headquarters is much in which the public in general and industry in particular will find merit. On the left front end of the building is a large reception room and a private office for J. Lyle Vance, manager. The balance of the floor space, well lighted by means of a display window and ten large skylights, is comfortably filled with permanent installations of varied appliances. Gas, water, and electric connections have been placed in all display spaces,



Natural Gas Bureau in Los Angeles

By GEO. H. HECKLER

which permits the exhibitor to show any appliance in full operation. The piping and wiring for these connections have been placed in the concrete floor and all outlets brought up either behind or under the various pieces of equipment—a distribution system that represents the best in commercial and industrial installation practice.

The front of the building reflects the pride which the three utilities feel toward their new exhibition. Set back from the street by a small lawn, the building commands a prominence which is enhanced by the attractive decoration of its front. With the fall of dusk each night, flood lights are played upon the building, setting out in relief its white and green painted surface and its huge gold-lettered signs. Carefully placed shrubs add their bit to the picture.

While much of the exhibition on Washington Street is given over to the latest industrial gas burning equipment, considerable space is taken by one of the most complete collections of hotels and restaurant appliances in the country. Occupying one whole side of the building, this display contains the latest and most improved types of Hot-top ranges, Fry-tops, Griddles, Salamander broilers, an Insulated Sur-

face Combustion Broiler, Vulcan and Pittman Deep Fat Fryers, Humphrey Rotisserie Broilers, Topper Coffee Urns, Cass Heavy Duty Ranges, Meek Reel Ovens, Blodget and Vulcan deck ovens, Roper and Wedgewood Restaurant Ranges, Clark Jewel Light Duty Ranges, steam tables, bun warmers and similar pieces of equipment. In this group may also be seen a burner display, including units for every conceivable use.

For some time the Commercial Cooking Committee has continually sought to modernize southland hotel and restaurant kitchens by the introduction of new gas burning equipment of known performance. Appliances that will save on time, labor, and fuel costs, and so insulated as to keep the heat inside and not on the kitchen force, may now be viewed at the Bureau headquarters. Customers who are interested in bakery, restaurant, hotel or food product equipment, may now do their shopping in a show room where their every need has been anticipated.

Vulcan's large line of heavy-duty equipment, including the All-Hot Top Range, the Combination Broiler and Roaster, the Open Top Range, the Fry Top Range, the Salamander Broiler, and many other models, may be seen. And because their installation, as in

the case of all displays, is permanent, the operation of these units may be seen at any time desired. Among these appliances is to be found an Insulated Surface Combustion Broiler that speeds up broiling work fully 25 per cent, delivering 1350° of radiant heat through three porous alundum slabs. Compared with the usual broiler, which delivers 650° at its peak, it is easily seen what type of appliances the Bureau has installed for exhibition. Another appliance of the Vulcan line that has proved popular with hotel and restaurant men is the Deep Fat Fryer, insulated and thermostatically controlled. This appliance eliminates fire hazard in the kitchen and saves more than 50 per cent on fat and fuel cost over former types. Another Deep Fat Fryer, the Pittman, is certain to attract much attention. One boast of its makers is that a variety of food can be fried in the same fat without danger of one food taking on the taste of another.

Running the length of the long battery of appliances, a display of the latest stove and range canopies, exhibited by the California Restaurant Equipment Company, at once catches the eye. Every canopy embodies improvements in kitchen ventilation.

The Savory automatic gas toaster, an appliance that is capable of delivering 720 pieces of perfect toast an hour at a fuel cost of approximately two cents an hour, is another exhibit that is expected to prove popular.

The Carrier Engineering Company have on display an Air Conditioner Unit that is sure to receive favorable comment. Having a capacity of 2,200 cu.ft. a minute, this unit will automatically heat air by steam through aerofin coils. And it will also supply the proper amount of humidity to the air, when necessary. This is accomplished with the aid of a humid-a-stat that may be placed at a convenient spot in the room. In this machine, the steam in the heating coils is automatically controlled by a syphon thermostatic valve. The air washer is fully automatic, with heat control. Such a unit has been found to be ideal for Bakery Proofing Rooms or Manufacturing Plants where a certain temperature and humidity is highly necessary. In addition, it is meeting with real

success as an air conditioner in public gathering places, such as stores, markers, eating places and offices.

While that part of the gas equipment exhibit given over to a showing of hotel and restaurant appliances is by no means small, approximately 75 per cent of the floor space in the Washington Street headquarters is taken up by the display of industrial equipment. And in arranging its industrial exhibits, the Bureau has given equal attention to both large and small manufacturers.

Equipment for heat treating and soft metal melting has been given a prominent place in the center of the large room. Many of these units are products of the Knapp Industrial Furnace Company, Pacific Lighting Corporation, subsidiary, and a number of the units exhibited by this organization are models of continued or improved lines originally designed by members of the Southern California Gas Company's personnel. The Surface Combustion Company and American Gas Furnace Company are exhibitors, having a number of units of equipment on display in the furnace section. Included in the Knapp and Surface Combustion exhibits are several large box-type heat treating furnaces, modern in design and regulated by automatic control apparatus, such as Brown Bristol and Leeds and Northrup automatic temperature control and recording instruments. There is also on exhibition a high speed, double deck furnace designed for use in the heat treatment of the new special alloys developed in recent years by the steel industry. Standing next to the heat treating units is to be observed a group of salt and oil bath furnaces used extensively in the airplane industry for the heat treating of aluminum and its alloys. There are several forging furnaces on display in the center of the room that give an observer an excellent opportunity to see the latest in equipment for high temperature forging.

The soft metal melting furnaces shown at the Exhibit are all equipped with indicating pyrometers, and each unit unexcelled for the melting of brass, bronze, aluminum, and their alloys.

Every piece of equipment in the

building is fully connected and made ready for almost instant operation, giving the Bureau a practical as well as scientific work-shop. In arranging these displays, special stress has been laid on the importance of automatic temperature controls, because of the effect such control has upon the quality of the product turned out, the saving in labor and time, the saving in fuel costs. All heat-treating equipment has been, therefore, fitted with the latest control devices. On many of these appliances it is possible to record the temperatures of all heats run, as well as those which merely indicate the temperature at which the various pieces of equipment are operating when under fire.

The Industrial Burner display includes various sized burners, as manufactured by the leading gas burner firms in the west. Those shown at the Exhibit may be applied in steam boilers ranging in size from five to one thousand horsepower; while there are also many burners shown that it is possible to apply to core ovens, solution heating equipment, and other small industrial installations.

Generating steam by gas fire is thoroughly and scientifically demonstrated in the exhibit by displays of cast iron sectional low-pressure steam boilers and high-pressure tubular steel boilers. All of these are the latest type, and are equipped with full automatic controls, low water feeds and cut-offs, and safety pilots. The best and most improved methods of insulation have also been followed in the construction of each, and all are encased in attractive new jackets. No hint of the old, ugly type of boiler is to be found among those placed on display by the Bureau.

The personnel of the exhibit consists of a manager, his assistant and a secretary.

The exhibit is managed by a committee of one executive member from each of the three sponsoring gas companies. The sub-committees function under the Industrial Committee which is responsible to the Exhibit Committee.

The Commercial Cooking Committee, handling all hotel, restaurant, institutional, bakeries and food products, and the Architects and Engineers

Service Committee act in an advisory capacity to members of these professions in matters pertaining to the installation of gas in its various uses in buildings under construction.

The exhibit is financed by contributions from the three sponsoring companies.

Space is given free of charge to manufacturers or manufacturers agents whose equipment meets certain high standards set by the committee in charge of exhibit. The exhibit floor space contains 6,875 sq.ft.

From time to time certain days or weeks are set aside on which special shows or demonstrations are given for the benefit of some particular industry or commercial group. Some of the groups that have visited the Bureau include 160 members of the Chefs de Cuisine Association, 140 licensed architects of the Los Angeles Section, 150 members of the Society of Steel Treating, forty members of the American Society of Heating and Ventilating Engineers, several groups of home economic teachers from the school system and also the Cafeteria Club from the school system, trade school groups, etc.

It is also the plan of the utilities behind the bureau to call attention at various times to specific exhibits through their general advertising, while direct mail advertising and educational campaigns likewise have been given a comprehensive place in the program.

Frank E. Stevens Dies at Ohio Home



F. E. Stevens

Heart disease claimed the life of Frank Elwood Stevens, aged sixty-nine, president and founder of the Latimer-Stevens Co., Columbus, Ohio, manufacturers of gas appliances, who died at his Columbus home in June.

Mr. Stevens, who founded the gas appliance company of which he was the head, in 1909, had been engaged in various capacities with gas companies over the country practically all his life. He was for years a member of the American Gas Association.

As Much—

Cooking Hot Water House Heating

will be required This Year as Ever

¶ The gas industry will continue to build up its domestic load in these departments of automatic heating to just the same degree that it pursues an aggressive, well-planned, properly organized sales program.

A. G. A. ART AND COPY SERVICE

A. G. A. OUTDOOR ADVERTISING SERVICE

A. G. A. DIRECT MAIL SERVICE

¶ Will enable you to build up such a Sales Campaign at a minimum of cost and effort.

¶ Particularly is the Outdoor Advertising Service (5 posters, featuring Cooking, Water Heating and House Heating) timely now—3 more months of outdoor "eye-smashing" advertising weather and opportunity.

For further particulars write

Publicity and Advertising Section

AMERICAN GAS ASSOCIATION

420 Lexington Avenue, New York, N. Y.

Affiliated Association Activities

Pacific Coast Gas Association

THE thirty-eighth annual convention of the Pacific Coast Gas Association, to be held in San Francisco, starting August 31, will be unique in at least two particulars. It will be the first time the convention of this association has been held in a large city since 1915 when the Pacific Coast Gas Association acted as host to the International Gas Congress held in San Francisco at the time of the Panama Pacific Exposition.

The second unique feature will be the Natural Gas Exposition held in conjunction with the convention, with the cooperation of the Pacific Gas and Electric Company.

The attendance at this exposition will not be confined to delegates to the convention. It is primarily being held as an educational and sales promotion feature for the benefit of the people of the San Francisco Bay area. There are more than 400,000 gas consumers in this area and an elaborate campaign of advertising in newspapers, billboards and street cars is expected to draw 200,000 of them into the Auditorium during the week of the Exposition.

All the available space in the main hall of the San Francisco Civic Auditorium has been taken by manufacturers of gas appliances and equipment and an elaborate scheme of decoration has been evolved which will transform this great room into a riot of flame colors—reds, oranges and blues.

A number of publicity stunts have been evolved, among which is a daily cooking school in which all the San Francisco newspapers will participate. The hall in which this cooking school will be held joins the exhibition hall and seats 1200 people.

A similar hall on the other side of the Auditorium will be used for the business sessions of the Pacific Coast Gas Association Convention.

Because of the Natural Gas Exposition the convention schedule has been changed somewhat from the customary procedure of business of this Association. All general meetings will be held in the mornings when the exhibit will be closed and only the most necessary of section meetings will be held during the afternoon period.

Inasmuch as the exhibit will be open every evening during the week, there will be few evening functions and a different rendezvous is being established for each evening where the delegates will go for dancing and entertainment after the exhibit closes at 10 o'clock. This shifting rendezvous will give those attending the convention a glimpse of the gay night life in San Francisco.

In developing the business program of the convention, special attention is being given to the adequate treatment and discussion of the problems of the industry

Convention Calendar

**Pacific Coast Gas Association,
San Francisco, Calif.**

August 31 to September 5.

Empire State Gas & Electric Association,

The Sagamore, Bolton Landing,
Lake George, N. Y.
September 10 and 11.

**Wisconsin Utilities Assn. Gas Section,
Sheboygan, Wis.**

September 10 and 11.

American Trade Association Executives,

Grove Park Inn,
Asheville, N. C.
September 23 to 26.

**Range, Water Heater, Space Heater,
Boiler and Miscellaneous Divisions,
Manufacturers' Section, A. G. A.,**

Book-Cadillac Hotel,
Detroit, Mich.
September 17 and 18.

**Public Utilities Assn. of W. Va.,
Greenbrier Hotel
White Sulphur Springs, W. Va.**

September 18 and 19.

American Electric Railway Association,

Atlantic City, N. J.
September 26 to October 2.

**Wisconsin Utilities Association,
Women's Conference,
Green Bay, Wis.**

October 8 and 9.

**American Gas Association,
Atlantic City, N. J.**

October 12 to 16.

**Nat'l Assn. of Railroad & Utilities
Commissioners,
Richmond, Va.**

October 20 to 23.

**Wisconsin Utilities Association,
Commercial Section,
Madison, Wis.**

October 22 and 23.

**American Petroleum Institute,
Stevens Hotel,
Chicago, Ill.**

November 10 to 12.

**Bituminous Coal Conference,
Pittsburgh, Pa.**

November 16 to 21.

**Utility Association Secretaries,
Milwaukee, Wis.**

November 30 and December 1.

**Heating and Ventilating Exposition,
Cleveland Auditorium,
Cleveland, Ohio.**

January 25 to 29, 1932.

which are of paramount importance to gas companies on the Pacific Coast at the present time. The expansion of the Pacific Coast industry, due to the rapid increase in population and the extension of the natural gas service, has created unique problems of sales and public relations.

Among the speakers will be: Le Roy M. Edwards, vice-president, Southern Counties Gas Company; A. F. Hockenbeamer, president, Pacific Gas & Electric Company; A. A. Smith, secretary and general attorney, Eastern Oregon Light & Power Company; Miss Jessie McQueen, home service counselor, American Gas Association; Dr. H. R. Halsey, The J. David Houser and Associates, and Geo. L. Myers, assistant to president, Portland Gas & Coke Company.

R. E. Fisher, president, Pacific Coast Gas Association, has announced that John P. Coghlan, vice-president, Pacific Gas and Electric Company, is general convention chairman; Van E. Britton, of Oakland, is in charge of entertainment; A. C. Joy, San Francisco, is in charge of publicity and advertising for both the convention and the exhibition; Harry C. Ross, San Francisco, is program manager; Henry Bostwick, San Francisco, is in charge of registration,

and W. S. Yard, San Francisco, is in charge of hotel accommodations.

The Exposition Committee is headed by H. M. Crawford, general sales manager of Pacific Gas and Electric Company and chairman of the Commercial Section of the Pacific Coast Gas Association, assisted by George P. Egleston, as director of exhibits.

Empire State Gas and Electric Association

THE annual convention of the Empire State Gas and Electric Association will be held at The Sagamore on Lake George on Thursday and Friday, September 10 and 11. The post office address is Bolton Landing, N. Y. Reservations should be made direct with the hotel. Further announcements will be made in regard to transportation facilities.

The Sagamore is a new hotel having opened last year and offers excellent accommodations. The new eighteen-hole golf course, built in connection with the hotel, is said to be very fine.

There will be two business sessions, one each morning. The program will include the following:

"The Utility Tax Burden," by Hon. Mark Graves, State Tax Commissioner.

"Farm Electrification Problems," by Hon. Maurice C. Burritt, Public Service Commissioner.

"Natural Gas in New York," by E. B. Swanson, chief economist, petroleum division, Bureau of Mines.

"Developing Conference Leaders and Employee Training," by Arthur L. Mann, chief of the Industrial Bureau, Department of Education.

Invitations have been extended to the presidents of the American Gas Association and the National Electric Light Association, to address the meeting. Definite arrangements for their appearance are expected to be completed in the near future.

Michigan Gas Association

THE Michigan Gas Association in its annual convention at Mackinac Island, June 29, June 30 and July 1, gave particular attention to natural gas possibilities in the state and to research studies being conducted at the University of Michigan under the auspices of the association.

Michigan State Geologist R. A. Smith, in a paper on "Natural Gas Possibilities in Michigan," detailed the findings of natural gas in Isabella and Clare counties where there are seventeen producing wells with a daily gas potential of more than 52,000,000 cu.ft. He said: "A study of the available data and information would indicate that similar shallow gas pools should be expected within an area of about 2,000 sq.mi. in the interior of the Lower Peninsula, with Mt. Pleasant as a center. While it is too early to make definite assertions, it seems very probable that the natural gas reserves of this central district will prove to be of very considerable economic importance to the state. The important strikes of gas which have been made in deeper lying formations, as the Traverse and Dundee at Muskegon, and the promising showings in other formations such as the Berea sandstone, tend to support the view that with further and more systematic exploration Michigan will develop gas reserves of no inconsiderable commercial value."

James A. Brown, of the Commonwealth and Southern Corporation, New York, in a paper on "What It Means to Change Over to Natural Gas," said: "Natural gas has not yet become a problem of much importance in the State of Michigan, but it may become so at an early date."

He went on to say: "An entirely misleading notion is abroad that natural gas service is going to be much cheaper and much better than the service now being rendered. As a matter of fact it is just another source of gaseous energy to be distributed through pipes and meters to our customers. It will not be very cheap at the end of a Fifty Million Dollar pipe line, and it will have to com-

pete for a market with other forms of fuels available to the customer—artificial gas, coal, oil and butane. It must be remembered that there will be some additional operating costs in using natural gas. Regulating and rehydration stations will require attendance and operation. Manufacturing gas plants shut down or partly shut down will require maintenance and care."

On the matter of "therm rates," Mr. Brown said: "In our opinion this is the proper standard to use for making rates to our customers. On the basis that an operating company is entitled to earn a reasonable return on the required investment to furnish the service, it is not likely that the rates can be greatly reduced from the present rates per unit of heat furnished. If the use of natural gas permits the addition of considerable business of various kinds, this additional business, when and if attached, may permit the company to lower its rates for service to the customer."

Professor E. S. Pettyjohn, of the Engineering Research Department, University of Michigan, who for the past four years has been engaged on gas research work under the auspices of the Michigan Gas Association, reported on last year's activities which included: "The Improved Utilization of Oil in the Manufacture of Carburetted Water Gas," "A Study of the Types of Oil Available in Michigan for the Carburetion of Water Gas, with Particular Emphasis on the Utilization of Midland-Mt. Pleasant Crude Oil," and "A Study of the Thermal Conditions in the Water Gas Machine."

His report asserted that Michigan crude oil from the Midland-Mt. Pleasant area can be used to advantage by Michigan gas companies in the carburetion of water gas.

"In the tests," said the report, "the quantity of crude oil required for carburetion was slightly less than the normal quantity. This decrease provided a saving beyond the price differential which existed between the two oils (the other being gas oil). The operating results indicate that when using Midland-Mt. Pleasant crude oil for carburetion, the quantities of both coal and oil used per thousand cubic feet of gas made were below the normal requirement for the plant."

Chairman D. W. Hayes, of the Technical and Fellowship Committee, also reported on the year's research work. Activities along this line will be continued under association auspices during the coming year. The Michigan Gas Association fellowship at the University of Michigan is now entering its thirty-second year. It is believed to be the senior industrial fellowship in the United States.

President Alfred H. White in his annual address stressed the importance of research and study in meeting the problems rising out of present business conditions. He said: "We must make a careful

survey of what solid construction remains of the business edifice which towered so glitteringly in 1929 and with our eyes to the future instead of the past redesign and rebuild this structure to be adequate to the new conditions which confront us."

Reviewing the gas situation in Michigan, he commented: "The number of customers in Michigan was higher in 1930 than ever before, and the sales of gas were only 4 per cent below the peak of 1929, and were higher than for any other year. There are now 263 Michigan cities, villages and hamlets supplied with gas."

Miss Claribel J. Adams, of the Washtenaw Gas Company, Ann Arbor, in a paper on "Home Service in Smaller Gas Companies," asserted that group cooking classes and oven canning demonstrations using heat regulated ovens were helping to restore the arts of home baking and home canning.

President Clifford E. Paige of the American Gas Association was an honored guest of the convention. He spoke at a joint session of the Michigan Gas Association and Michigan Electric Light Association on Monday morning. His address is published elsewhere in this issue of the A. G. A. MONTHLY.

Other speakers at the joint session were A. C. Marshall, Detroit Edison Company, chairman, and Arthur W. Stace, director, Utilities Information Bureau of Michigan.

The Michigan Gas Association honored Frank A. Lane, superintendent, of the Citizens Gas Fuel Company, Adrian, with a life membership in honor of his sixty-two years of activity in the gas industry. Mr. Lane, who is seventy-seven years old and still on the job, began his career as a gas employee when fifteen years old as an office boy of the Omaha Gas Company.

New officers elected by the association are as follows: President, James E. Spindle, Grand Rapids Gas Light Company, Grand Rapids; vice-president, Walter E. White, Consumers Power Company, Jackson; secretary-treasurer, A. G. Schroeder, Grand Rapids.

Pennsylvania Gas Men's Association

THE Pennsylvania Natural Gas Men's Association held its annual golf party and annual meeting at the Wildwood Country Club, near Pittsburgh, July 7. Eight foursomes took part in the kickers handicap event in the afternoon. Joseph McKinley, vice-president in charge of sales, of Equitable Gas Company, was awarded first prize; Ross H. Smith, of the American Natural Gas Company, received the second prize, while the "consolation" prize went to Harry L. Smith, of Carnegie Natural Gas Company.

The annual meeting of the association was held following dinner, and the following were re-elected directors for the ensuing year: T. B. Gregory, chairman of

board of directors, Manufacturers Light & Heat Company; S. W. Meals, president, Carnegie Natural Gas Company; B. D. Phillips, vice-president, Phillips Gas & Oil Company; F. R. Phillips, president, Philadelphia Company; Geo. W. Ratcliffe, president, Manufacturers Light & Heat Company; J. F. Robinson, geologist, Peoples Natural Gas Company; F. F. Schauer, vice-president and general manager, Equitable Gas Company; E. S. Templeton, attorney-at-law, Greenville, Pa.; J. B. Tonkin, vice-president and general manager, Peoples Natural Gas Company; George E. Welker, president, United Natural Gas Company; Geo. Wittmer, Jr., treasurer, American Natural Gas Company.

At the organization meeting of the new board the following were elected officers for the Association year, 1931-1932: President, E. S. Templeton; vice-president, J. F. Robinson, and secretary-treasurer, B. H. Smyers, Jr.

New England Gas Association

THE seventeenth meeting of the Operating Division of the New England Gas Association will be held at the Wendell Hotel, Pittsfield, Mass., on September 18 and 19.

The program is headed with a dinner which will take place at the Wendell Hotel on the opening night at 6:30 o'clock to be followed by the business meeting made up of five fifteen-minute papers on purely operating subjects.

1. For the Works' Man
 - A. Results of Bunker C Oil Operation at New Haven.
 - B. Results with Combustion-Arch Checkerless Carburettor at Pittsfield.
2. For the Fitting Department
 - A. Developing a Water Heater for the Average Home with Reference to Protective Devices. Paper furnished by the Springfield Gas Light Company.
 - B. Results of Practical Home Tests on the Efficiencies of a Few Types of Hot Water Heaters by Hartford Gas Company.
3. For the Distribution Man
 - Mechanical Joints and Pipe Coating by Boston Consolidated Gas Company.

Opportunity for discussion of all these papers will be given.

It is proposed on Saturday morning to take those in attendance to the General Electric plant for an inspection trip and a demonstration of "Man Made Lightning." The ladies in attendance will be given a sight-seeing trip.

Arrangements will be made for those who may wish to play golf on Friday or Saturday at either the Berkshire Hills or Pittsfield Country Club.

This program and Pittsfield, in the heart of the Berkshires, should produce a fine attendance. Further information may be obtained from P. R. Buchanan, secretary-treasurer, Operating Division, New England Gas Association, care The Hartford Gas Company, Hartford, Conn.

Wisconsin Utilities Association

SECTION Chairman Kemen and his committee chairmen are arranging for a busy two-day program for the Gas Section Convention of the Wisconsin Utilities Association Sept. 10 and 11 at Sheboygan.

The national technical feature of the program will be a discussion by I. K. Peck, of Midland United Co., Chicago, who is vice-chairman of the Technical Section, American Gas Association.

Among technical subjects to be presented by Wisconsin operating men will be "Butane and Propane Plants," "Hollow Checker Tile," "Operating Data Regarding Newer Gas Plants in the State," "Insulation for Gas Holders," "Wisconsin's Approaching Natural Gas Problems," "Co-operative Method of Handling Electrolysis Problems," and "Distribution Problems Arising from Dry Gas."

Professor Kowalke will discuss "Gasoline and Gas as Future Fuels" and report on research work.

A plan for a gas company employee's manual will be presented and discussed. "Gas Refrigeration," "Water Softening," "Forced Air Heating and Air Conditioning," an exhibit of distribution department records used by member companies, an inspection trip through the new Sheboygan gas plant and the Kohler Manufacturing plants will be among features of the program.

President A. J. Goedjen will address the convention on subjects of general interest. E. C. Brenner will discuss "A Gas Engineer's Impressions of Russia" at the banquet. Chairman Kemen will give the opening address of the convention and section officers will be elected.

Meetings will be held in the Association of Commerce rooms overlooking the city of Sheboygan and its harbor.

The officers have arranged for a nine-hole golf tournament. A year and a half having elapsed since the last meeting of this section, it is anticipated that there will be a large attendance.

R. S. McCarty Elected P. U. A. A. President



R. S. McCarty

R. S. McCARTY, of The Philadelphia Company, Pittsburgh, Pa., was elected president of the Public Utilities Advertising Association at its annual convention in New York.

Other officers chosen are as follows:

First vice-president—E. Frank

Gardiner, Midland United Company, Chicago, Ill.

Second vice-president—Henry Obermeyer, Consolidated Gas Company of New York, New York, N. Y.

Third vice-president—Stanley Quinn, Electric Bond and Share Company, New York, N. Y.

Secretary—J. R. Pershall, Public Service Company of Northern Illinois, Chicago, Ill. (Re-elected.)

Treasurer—Howard F. Weeks, Consolidated Gas Company of New York, New York, N. Y. (Re-elected.)

Irving M. Tuteur, retiring president, was elected to the board of directors of the association.

Other directors elected were as follows:

J. S. S. Richardson, Joint Committee of National Utility Associations, New York, N. Y.; Bernard J. Mullaney, The Peoples Gas Light and Coke Company, Chicago, Ill.; F. W. Crone, New York Edison Company, New York, N. Y.; Keith Clevenger, American Gas Association, New York, N. Y.; James M. Bennett, Philadelphia Electric Company, Philadelphia, Pa.; Dana H. Howard, Commonwealth Edison Company, Chicago, Ill.; George F. Oxley, National Electric Light Association, New York, N. Y.; T. H. Kettle, Northern States Power Company, St. Paul, Minn.; J. R. Marsh, Georgia Power Company, Atlanta, Ga.

Survey Covers Liquefied Petroleum Gas Plants

A SURVEY of liquefied petroleum gas plants in the United States, prepared by the Statistical Department, American Gas Association, at the request of the Manufacturers' Section, has been distributed from Association Headquarters.

This survey covers the following topics: Names of communities served by liquefied petroleum gas plants; population of such communities; date of inauguration of gas service; heating value and kind of gas supplied; number of customers; name of company operating plant; name of holding or controlling company.

Copies of this survey may be obtained upon request.

Joins Americans At Paris Celebration

Alexander Forward, managing director, represented the American Gas Association at the thirty-sixth Fourth of July Banquet of the American Chamber of Commerce of Paris on July 3. Paul Doumer, president of the French Republic, Ambassador Edge and General John J. Pershing also were among those present.

Personal and Otherwise



W. H. Barton

William H. Barton has resigned as manager of the customer's department, Portland Gas and Coke Company, Portland, Oregon, to become general manager of the gas division of the Montana Power Company, Butte, Montana.

Andrew J. Carson, distribution department, rounded out sixty-one years of continuous service with the Consolidated Gas Company of New York, New York, N. Y., on June 16. He holds the company's longest service record.

A. H. Rutledge, formerly with the General Iron Works, Cincinnati, Ohio, has joined the sales department of the American Foundry & Furnace Company, Bloomington, Ill.

John J. Hassler, former city manager of Elk City, Oklahoma, has succeeded R. H. Lussky, of Oklahoma City, as gas and electric engineer of the Oklahoma Corporation Commission.

Bert O. Wood, Fort Smith, Ark., has been appointed local manager of the Seminole Gas Company, Seminole, Okla., succeeding A. D. English, who has been transferred to the Texas district manager-ship.

H. R. Sterrett, vice-president and general manager of the New Haven Gas Light Company, has been elected a director of the Connecticut Chamber of Commerce.



F. C. Strong

Frank C. Strong, statistician of the Oklahoma Natural Gas Corporation, Tulsa, Okla., has been appointed rate and industrial reports engineer of that company. Mr. Strong is a graduate of the University of Nebraska.

P. V. Root, assistant manager of the Oklahoma City District of the Oklahoma Natural Gas Corporation, has been appointed manager of the Muskogee district, succeeding W. M. Baker, who has been called into the general offices at Tulsa, Okla.

Ray Arndt has resigned as superintendent of the Central Illinois Electric & Gas

Co., Rockford Plant, and accepted a similar position with the Consolidated Gas, Electric Light & Power Co., Baltimore, Md.



Miss Rush

Miss Florence Rush, a graduate of the University of Minnesota School of Business, has been appointed home service advisor of the Oklahoma Natural Gas Corporation, with headquarters at Tulsa, Okla.

John E. Zimmermann, president of the United Gas Improvement Co., Philadelphia, Pa., has been elected a director of the Philadelphia National Co., investment company affiliate of the Philadelphia National Bank.

R. E. Wertz, who has been vice-president in charge of production of the Producers and Refiners Corporation, Inde-

pendence, Kan., has become vice-president and general manager of the Southwest Development Company, Amarillo, Texas, a holding company that is serving many communities in Texas.

W. P. Canavan, of Oklahoma City, Okla., vice-president of the Oklahoma Natural Gas Corporation, has been elected governor of the third district, Lions International.

J. Y. Wheeler, of Wynnewood, Okla., has been promoted to the position manager of the Community Natural Gas Company in Oklahoma. C. L. Slover has succeeded Mr. Wheeler, who formerly was district manager at Wynnewood. Mr. Wheeler will continue his headquarters in Wynnewood.

O. A. Jennings has been elected vice-president and commercial manager of the Oklahoma Gas and Electric Company. He had been commercial manager of the Oklahoma Gas and Electric Company since 1919. For 14 years prior to that time he was located in Dallas, Texas, as a special representative of the General Electric Company.

Natural Gas Proceedings

for the years 1922, 1924, 1925, 1926, 1927, 1928 and 1929 are available to members at \$1.00 per volume postpaid.

Inasmuch as the supply of these volumes is limited, requests for copies will be filled in the order of their receipt.

ADDRESS

AMERICAN GAS ASSOCIATION
420 Lexington Avenue
New York City

Home Service Activities

Home Service and the Homemaker*



Miss Karen Fladoes

THE question "What does the homemaker want to know?" has received widely divergent answers. At the one extreme is the feeling that she wants to know a great deal about every phase of homemaking; at the other the answer is "absolutely nothing." While the truth probably lies, as always, somewhere between these two extremes, I believe that the first answer is more nearly correct; particularly is it true when women have been made conscious that there are simple and practical solutions to the problems that confront them daily. However, a sort of apathy often encountered in housewives that makes them content with what they have because they have never known anything better gives the second answer a ring of truth and makes it more difficult to reach them.

Recently the *Delineator Institute* sent a questionnaire regarding kitchens to several hundred women. Among the questions asked was this, "Is your kitchen convenient?" Most of the answers to this were in the affirmative. I do not believe for a minute that most of these several hundred kitchens were really convenient. In all probability only a small percentage could be so designated. But because these women have accustomed themselves to a certain working space and are so familiar with the grouping of the equipment in their particular kitchens that they could find their way around in the dark does not indicate that they enjoy convenience as the efficiency engineer knows it. Not knowing more efficient, more convenient arrangements of working space, having no standard against which to measure their own kitchens, they naturally assume that because it is the best they know it is also the best there is.

Fixed habits, the tendency on the part of women to get along with what is readily available, and a tremendous unawareness of what might be available give the impression that they do not want further knowledge, whereas they are simply not conscious of the fact that there is any more for them to learn. They don't know that they don't

By MISS KAREN FLADOES,
Chairman, American Gas Association
Home Service Committee

know. Those of you who are inclined to scorn the poor housewife for not knowing how to take advantage of the assistance that science and industry are offering her, consider what a problem the use of leisure time has become. The fact that most of us, men as well as women, don't know what to do with it has been pointed to as a great objection to the four or five day working week. And the ones most vitally concerned in it don't even know what they ought to learn in order to spend leisure time profitably. This sounds like a complicated situation; and is one that economists and sociologists are quite concerned about.

The business of homemaking is a very complex one; and the mere fact that many women elect it as a profession does not signify that they have a special flair for it, or even that they find it interesting enough to give it the thought and attention it deserves as a business. The housewife must be chief executive, personnel director, accountant, stylist, shopper, office boy, and janitor all in one, which makes her task infinitely more difficult than if she could concentrate on any one of these duties. There is no question but that her chief problem is one of management; and that in spite of the fact that she may not be aware that management is what she wants to know, yet it is what she needs and what she is, either consciously or unconsciously, striving for.

An article, "What Next in Homemaking," that appeared in the *Ladies' Home Journal* for March, 1930, lists the homemaker's problems as follows:

1. Money, how to make it go further, how to divide it fairly among members of the family, how best to provide for an old age income.
2. Taking care of children and training them to be good citizens.
3. Family relationships, trying to live happily with people of different ages, tastes, interests, and dispositions.
4. Providing suitable food in acceptable variety for the family.
5. Keeping all members of the family interested in home affairs.
6. Too much housework, referring to the manual labor.
7. Too long hours of work.
8. Servants and part time help, how to secure, train, manage, establish satisfactory relations with.

9. Selecting equipment and furnishing, making sure it is what you need and want.

This seems to me an excellent outline of the many perplexing situations that arise in the course of housekeeping, or rather homemaking. These are the things women should be interested in if they wish to have well-managed homes.

The only way I have of telling how great an interest women take in any of these things is by the questions that are received in our home service department. The majority of these concern the food problem. They include requests for recipes and menus, information on the more unusual sorts of foods such as artichokes or avacados, assistance in baking difficulties, and advice on new and more improved methods of cooking. Such a preponderance of cooking questions is really not as significant as it may sound in view of the fact that the housewife must, in the midst of all her other duties, prepare three meals a day for seven days a week. No matter what happens or what else is neglected, we must eat. Next in point of number to questions on food are those concerning equipment, not only from prospective purchasers but also from women who may be experiencing difficulty in the operation of equipment already owned. However, the question of equipment is not one constantly before every woman as is the food problem. One becomes concerned about washing machines only when one's own refuses to do the washing, or when about to purchase a new one; and this holds true for almost every sort of home furnishing. It is the exceptional woman who can find time to keep up with the march of progress in the appliance field without the pressure of immediate need. Budgeting of time as well as of money, shopping for food and furniture, decorating, lighting, care of children, and management of servants all come up from time to time in our questions. However, an analysis of the questions received over a period of some months shows that women are interested primarily in the preparation and serving of food, and in how to make work easier and homes more attractive without too great an outlay of money.

The gas company is vitally interested in seeing that these housekeeping problems are settled satisfactorily. Changing economic conditions react on the gas company through their effect on the domestic consumption of gas. The increase in factory production over home production is a vital concern to any one interested in the use of gas in the home.

*Digest of address delivered before Domestic Appliance Course, American Gas Association Testing Laboratory, Cleveland, O., June 19, 1931.

The Modern Way of Drying Laundry*

By W. P. McCOY

SUNDAY may be "fun day" but Monday is always "wash day"—every week of the year. In homes where there are babies or small children every day is wash day—and there is no doubt about that. Ask Mother, she knows.

Until the appearance of the efficient modern washing machine, wash day was looked upon as an irksome day, indeed. The modern washer solved the clothes washing problem and the gas or electric hand iron made ironing comparatively a joy. Today the many types of perfected gas or electrically heated ironing machines have brought an added measure of comfort and convenience in connection with the ironing process.

The modern washer and ironer, however, solve only two-thirds of the home laundering problem, and no problem is really solved until you have the solution to the whole of it. Every woman knows that drying clothes is the "neck of the bottle" and the most exasperating part of the domestic clothes laundering routine, so it is fair to assume that the gas-heated clothes dryer occupies the key position and possesses a dominating effect upon the development of the gas load obtainable when the laundry is done in the home.

Very few women are satisfied with the general run of laundry work as done in a commercial laundry and practically all prefer to have the laundering done at home. An all-round satisfactory method of drying has been the stumbling block. The need for an efficient, dependable drying device is clearly indicated.

A recent survey shows that lack of proper drying accommodations is the greatest factor in driving the laundry work out of the home. Hanging laundry outdoors is now prohibited in many high-class residential districts. Drying clothes in the basement and various other places indoors is a slow, inconvenient and very unsatisfactory method. Clothes hung in the basement to dry, even under supposedly good conditions, possess a stale and unpleasant odor accounted for by the presence of microscopic spores or mould seeds which form on any moist fabric hung up to dry in still air.

There seems to be no question that the modern A. G. A. approved gas-heated clothes dryer wields a powerful influence in keeping the laundry in the home. It produces a profitable, new gas load and its sale should be extensively cultivated by gas companies. Preference for home laundering is clearly shown by the fact that in practically all of the finest homes, occupied by those of the millionaire class, you will find a completely equipped laundry with a modern gas-heated dryer occupying a prominent place in the set-up.

Until a few years ago safe and efficient laundry dryers were only available to the

wealthy class and built for them to specification on special order. Now, however, the rank and file have their choice of A. G. A. approved dryers in a variety of standard sizes and styles to meet the exact requirements of any size home—at prices within the reach of all who can afford to buy an ordinary washing machine.

Many women tell us they prefer to hang their clothes out in the "pure air and sunshine" because they believe that the air and sun have a sterilizing effect on the clothes and that the sun bleaches white fabrics. Both of these ideas are erroneous and must be combated. Medical men tell us that the atmosphere is germ-laden and every man knows the sun yellows his shiny, white straw hat. At any rate we are certain that the air is full of dirt, dust, soot, smoke, acids and a lot of other undesirable elements that are not conducive to cleanliness in attempting to dry clothes outdoors—even on sunny days. The problem of drying clothes on rainy, damp or muggy days needs no amplification.

No home of the present or future can be classed as strictly modern unless it is equipped with a clothes dryer. It solves the most troublesome part of the home laundering problem and makes the process of washing, drying and ironing a continuous one—places that part of the domestic routine on a definite, fixed schedule—any day of the week—regardless of weather conditions. It provides a strictly sanitary and better all-round way of drying clothes every week of the year.

If the air and sun produce the effect on clothes that many women entertain, hospitals would use that method for sterilizing uniforms, sheets, cloths, etc. Hospitals use sterilizing cabinets—and that is just what the modern A. G. A. approved gas-heated dryers are—sterilizing cabinets plus a means for efficiently and quickly evaporating the moisture from fabrics hung in them.

White garments hung outdoors on a line are not automatically bleached. In fact a white sheet will turn yellow if left exposed to the hot sun after it is dry. It may be left for a week or more in one of the modern A. G. A. approved dryers—with the heat on—without producing this undesirable effect. We all know that the sun fades colors out of many fabrics. This does not happen when colored fabrics are dried in an approved gas-heated clothes dryer.

You can, however, produce a bleaching effect outdoors under certain conditions—but that is known as "grass bleaching," a slow and rather difficult proposition, available to only a limited number of homes.

To the woman who tells us that she prefers to dry her clothes outdoors in the pure air, we tell her that when she hangs her clothes in one of the modern clothes dryers she not only dries them with that same pure air but with it sterilized—the same pure air plus sterilization and the

breeze and heating agent automatically controlled.

No matter what objection she offers when you try to sell her a dryer she becomes very enthusiastic about its performance, comfort and convenience, after she has used it two or three times. To the woman who feels that her linens and other clothes that make up the weekly wash are too valuable and highly-prized to be entrusted to a dryer, we call her attention to a list of internationally known people in the millionaire class who have been drying their finest pieces in these dryers—some of them for more than a quarter of a century.

Experience with cheap and inefficient dryers that have appeared from time to time, not approved by the A. G. A. Laboratory, has bred a prejudice in the minds of some people against drying in a gas-heated device. In describing the modern A. G. A. approved gas-heated clothes dryer it is important to make clear to the prospective user that none of the products of gas combustion get into the drying chamber and that the gas heating radiator is completely enclosed, with the temperature controlled by an Automatic Thermostat, the maximum setting of which is safely below the scorching point. It is well to note here that clothes do not scorch readily even at high temperatures if there is ample circulation of air in the dryer.

The modern A. G. A. approved clothes dryers are absolutely dependable. They sterilize as they dry. White fabrics retain their natural whiteness and colored fabrics their original colors. All kinds of materials from the finest filmy silks to the heaviest woolen blankets are dried safely, quickly and as soft and fluffy as the most critical person desires.

The perfected dryers do not bake the moisture out of the clothes. A completely enclosed heat radiator distributes warm air evenly throughout the drying chamber. The circulation of clean, fresh air, sterilized and warmed to the proper degree, with a positive means for exhausting the moist vapor out of the drying chamber as rapidly as it is evaporated from the clothes, insures the clothes being dried with the natural freshness of outdoor drying under ideal weather conditions.

We are frequently asked to state the best drying temperature. This of course depends upon the nature of the fabrics. In general all fabrics are practically bone dry at 175 to 180 deg. Fahrenheit. As a general rule silks, including rayons, dry best at a temperature from 125 to 135 deg. Fahrenheit; woollens around 150 deg., while linens and cottons are dried at advantage at 175 deg. The temperatures given refer to the evaporation or drying period. No harm occurs in subjecting the fabrics to reasonably higher temperatures after the moisture is evaporated and the fabrics are dried. It is after the fabric is dried and the temperature reaches 145 deg. or higher that sterilization begins.

* Paper presented before Domestic Gas Appliance Course, A. G. A. Testing Laboratory, June 20, 1931. The author is general sales manager of Judelson Dryer Corp.

We must bear in mind that if the temperature in the dryer is 225 deg. Fahrenheit when it is loaded with a batch of moisture-laden clothes the temperature immediately drops to about 110 deg. and then starts to build up gradually after the doors are closed until the maximum of the thermostat setting is reached. When the temperature reaches 135 deg. Fahrenheit the silk fabrics are dried and when the temperature has been raised to 175 or 180 deg. all the other pieces are dried.

The instructions for the use of the dryer are very simple, and may be stated briefly as follows:

1. First, light the lighter. 2. After you have lit the lighter and the lighter gas is striking the burners through the holes in heating drum, turn gas on at the burner cocks. 3. Make sure burners are lit, then turn off lighter cock.

Before hanging clothes in the dryer make sure they are thoroughly rinsed and free from all soap particles.

Wring clothes thoroughly—the less water they contain the quicker they will dry.

Do not overload the dryer. Do not place one piece on top of another, or over several rods so as to interfere with free circulation of air reaching all pieces.

Hang the longer pieces on the higher rods and the shorter ones on the lower rods.

Sheets may be folded once and hung from rods placed on the upper horizontal supports.

Hang the heavier pieces at the back of the dryer. The lighter pieces dry faster, and if placed in the front are readily removed when dry.

For the average run of clothes keep the thermostat set at its maximum temperature of 225 deg.

When only silks or delicate light pieces make up the drying load it is not necessary to set the thermostat higher than 125 to 150 deg.

The drying time depends upon the amount of moisture left in the garments. The more moisture taken out of the clothes before placing them in the dryer the quicker they will dry. Light weight pieces dry in 10 to 15 minutes and the average mixed load in about 45 minutes. Heavy woolen blankets dry in about one hour. In all cases the clothes are dried as quickly as they can be prepared for the washer, washed, rinsed, etc. In this connection it is well to observe that the drying time is cut in half if the clothes are put through a modern centrifugal extractor.

While mentioning centrifugal extractors we believe it important to correct the impression that an extractor is a dryer. They are not dryers in any sense because they do not dry clothes. They are excellent "wringers"—but specifically they are water extractors. Statements are frequently made that if clothes are put through the extractor they are ready for the mangle. Experience in connection with that idea shows it to be not only unsatisfactory but very harmful to both clothes and the mangle. In passing we

might say that drying too fast, under any conditions, produces a decided deteriorating effect upon fabrics. A quick and safe rate of drying is assured in all gas-heated dryers having A. G. A. Laboratory approval.

Four or five years ago gas operated refrigerators formed a negligible part of gas company merchandising activity. The gas-heated clothes dryer occupies a similar position at the present time. A few years ago there were not many gas men really sold on the gas refrigerator. All sorts of objections were raised against it. Many unwarranted fears were entertained. Today, the gas refrigerator forms the major part of merchandising activity among a number of gas companies.

During the year 1930, with the idea of a depression to confront, we are told that at least one gas company's refrigerator sales in dollar volume exceeded those of all other gas appliances combined. Few would have believed this possible four or five years ago. Old-timers in the gas business will remember the reluctance with which other gas appliances were accepted that now form an important part of their appliance sales.

We would like to see every gas company start immediate activity to sell the idea of and promote a more general public acceptance for the gas-heated clothes dryer. There probably could be no more effective way to start things off than for every company to display one of the modern dryers under the direction of their Home Service Department. This idea would be ideally carried out if it were possible for every company to display the dryer in connection with a washer and ironer—and all three appliances actually used in demonstrations.

In the ordinary home made up of four to five people the gas-heated clothes dryer will net a minimum new load of about 10,000 cu.ft. per year on natural gas and about 20,000 cu.ft. per year on manufactured gas.

Reliable statistics show that during the five years from 1926 to 1930 over 4,000,000 domestic washing machines were sold in this country—and during the same period more than 400,000 domestic ironing machines were sold. The total number of domestic washing machines in use January 1, 1931, is placed at 7,000,000 and the number of domestic ironing machines at 700,000. In other words there was one ironing machine sold, during the past five years, to every ten washing machines.

Only a negligible number of families owning both a washing and ironing machine have a gas-heated clothes dryer, notwithstanding the fact that the dryer forms the indispensable connecting link between the washer and ironer. The enormous potential market for gas-heated clothes dryers is made quite evident.

We recently sold 406 Judelson gas-heated dryers to the Prudential Life Insurance Company for their housing development in Newark, N. J. The new gas consumption from this job is conservatively estimated at 8,000,000 cu.ft. per year.

The method of drying clothes in general use today is not much different from that

employed thousands of years ago when the practice was to hang the "royal raiment" on tree limbs or lay them on the grass. In fact many of the methods employed today to dry clothes outdoors or indoors are not as convenient or sanitary as those employed in prehistoric times. The modern clothes dryer represents the march of human progress and the unfoldment of scientific ideas for the good of mankind.

A modern gas-heated dryer is as indispensable to comfort and convenience in the home today as is mechanical refrigeration and other services now commonly rendered by modern time and labor saving household appliances. Let any woman use a good clothes dryer two or three times and she will never part with it. The work done by it will prove a happy revelation to her.

The members of the Home Service Departments can be of the greatest help in carrying this message of cheerful service to the millions of homes throughout the country.

Wisconsin Railroad Commission Ends Existence

ON Monday, June 8, the Railroad Commission of Wisconsin after about twenty-six years of outstanding regulation of railroads and about twenty-four years of regulating public utilities along lines that have attracted the attention of all states and many foreign countries, ceased to be. It became the Public Service Commission of Wisconsin with the passage of bill 353 S which gives the state greater power to regulate and some powers which at least border very closely on the functions of management.

The cost of much of the administration of these regulatory functions is to be charged back to the corporations regulated according to the measure. This includes investigations on the commission's own motion as well as those made on complaint or application to it. Railroads are affected the same as other public utilities. The change does not affect the personnel or terms of office of the commission nor the validity of standards, orders or rules of the Railroad Commission nor any proceedings pending at the time of the change.

Utility Man Writes Murder Mystery

EVEN the most rabid critics of the utilities have not yet accused them of murder. Yet one utility man—J. H. Wallis, New York, of the Joint Committee of National Utility Associations and the National Electric Light Association—has entered upon a career of homicide through the writing of a murder-mystery novel called, "Murder by Formula." Mr. Wallis's book is published as the Dutton Clue Mystery for July, and is said by those who have read it to be a genuine thriller. The book is dedicated to Judge Stephen Davis, director of the Joint Committee. The scene of the mystery is laid in Manhattan.

Testing Laboratory

R. M. CONNER, Director

MANAGING COMMITTEE

J. S. DEHART, JR., Chairman

N. T. SELLMAN, Secretary

Gas Appliance Course Attracts Home Service Workers

FOR the third consecutive year an interesting and instructive training course dealing with the various phases of the domestic utilization of gas was held at the American Gas Association's Testing Laboratory at Cleveland, Ohio, in June. This course is held each year under the direction of the National Home Service Committee of the

American Gas Association. The purpose of the course is primarily to give home service workers an opportunity to better acquaint themselves with the details of construction and operation of the various types of domestic appliances, and to broaden their educational background in gas utilization so as to enable them to render the maximum service to the users of gas furnished by their respective companies.

This course, although sponsored primarily for the benefit of home service workers, has been found to be of special interest and value to service men, home economics teachers, and others interested or engaged in home economics work. A number of the latter groups take advantage of this opportunity of becoming familiar with the design, operation, care and servicing of gas appliances. Among those attending this year's course were twelve home service representatives of gas companies, twelve gas company service men, three engineers from manufacturers of gas appliances, two representatives of national retail stores, three home economics experts from appliance manufacturers, two home economists representing manufacturers of baked goods and baking products, one representative of manufacturers of cooking utensils and kitchenware, one university teacher, one women's magazine writer, and Miss Jessie McQueen, home service counsellor of the American Gas Association.

The widespread influence of this branch of the home service committee's activities is shown by the fact that among the persons attending the course were



Group attending Domestic Gas Appliance Course

two from Texas, one from Florida and one from Wisconsin, while several others came from such eastern points as New York, Brooklyn, Philadelphia and Syracuse, as well as from numerous other less distant cities. In all, there were representatives from nine States present.

The course was opened with an address of welcome by C. T. Henderson, general sales manager of The East Ohio Gas Company, Cleveland, Ohio, who also outlined briefly the accomplishments and progress of the gas industry especially from the standpoint of domestic service.

The balance of the first day was devoted to an address, "What Service Workers and Home Economics Teachers Need to Know About Gas," by N. J. Reiff, A. G. A. Laboratory testing engineer in charge of the course; an address by Miss Dorothy Shank, director research kitchen, American Stove Company, on "The Application of Heat to Various Foods in Baking"; and the showing of two instructive moving picture films on field production and operation from a series of films on the story of natural gas, produced by the Ohio Fuel Gas Company. The films were exhibited by A. J. Richard and Carl Fordham, of the Ohio Fuel Gas Company, Elyria, Ohio.

Miss Shank's talk was especially interesting to the home service women attending since many of the questions often raised by housewives in regard to the use of gas for cooking were clearly explained. The three methods of heat transfer were briefly discussed along with the nature of the heat transfer in ovens. The talk also included a discussion of the various kinds of food materials, the effects of

long and short periods of heating of various foods, the effects of temperatures upon foods, together with a summary of the results to be expected when using different types of cooking utensils for similar operations.

Tuesday's program included an address by R. M. Conner, director, A. G. A. Testing Laboratory, on "The

Home Service Worker's Place in the Industry," a lecture on "Gas Range Thermostats" and one on "Water Heaters, Types and Design," by W. R. Teller and F. Rutherford, respectively, Laboratory testing engineers; an address on gas refrigerators and a demonstration of the action of the various controls by W. S. Walker, utilization engineer, Consolidated Gas Company of New York; and an address by F. A. McFerran, Ruud Water Heater Company, on "Water Heater Service Conditions."

A great deal of interest was created by Mr. Walker's demonstration as to the action of the two thermostatic devices, one of which maintains the proper degree of coldness within the refrigerator and the other which shuts off the gas supply to the small burner when the water supply fails. The many phases of refrigeration and its advantages, as well as the servicing of gas refrigerators were clearly explained.

The first lecture on Wednesday was given by Major W. E. Stark, research engineer, Bryant Heater & Manufacturing Co., on the subject of "Central Heating and Cooling for the Home." The lecture was illustrated by use of a series of lantern slides. The rapid developments in this field and the advantages not only to the gas industry but to the consumer were clearly pointed out by Major Stark. Other addresses and lectures given on Wednesday included "Home Service as a Sales Activity," by B. H. Gardner, director of sales, Columbia Engineering & Management Corporation; "Design and Performance of Gas-Fired Incinerators," by W. Smith, Laboratory testing engi-

neer; "Merchandising Incinerators," by W. R. Lacey, president, Kernit Incinerator Co.; "Space Heaters, Various Types and Their Comparative Advantages," by K. H. Flint, chief inspector, A. G. A. Laboratory; and "Effect of Change-Over from Manufactured to Natural Gas" by F. E. Vandaveer, supervisor, A. G. A. Laboratory.

Thursday's and Friday's programs included addresses and lectures by E. D. Milener, industrial research representative of the American Gas Association, on the subject of "What the Bakeries Are Doing to Increase Their Business in Bread and Fancy Goods"; "The Business of Home Service," by Miss McQueen; "Gas Ranges, Their Design and Operation," by C. S. Struckenholtz, A. G. A. Laboratory foreman; "The Use of Portable Gas and Butane-Air" by W. P. Cook, A. G. A. Laboratory testing engineer; "A Comparison of the Relative Costs of Gas and Electricity for Domestic Cooking and Water Heating Purposes," by K. R. Knapp, chief engineer, A. G. A. Laboratory; "Home Service and the Homemaker" by Miss Karen Fladoes, chairman of the A. G. A. Home Service Committee, Equitable Gas Company of Pittsburgh, and "The Significance of the A. G. A. Laboratory Approval Seal" by F. R. Wright, publications editor, A. G. A. Laboratory. A part of Thursday, following the lecture on gas ranges, was devoted to practical work in the adjustment of various types of appliances and controls, while the latter part of Friday afternoon was occupied by a trip through the Laboratory.

The program Saturday morning included a lecture on clothes dryers by W. Smith, A. G. A. Laboratory testing engineer; and addresses by W. P. McCoy, general sales manager, Judelson Dryer Corporation, on "Gas-Heated Clothes Dryers, the Modern Way of Drying Clothes," and "Chimney Conditions and Ventilation" by J. Corsiglia, assistant chief engineer, A. G. A. Laboratory.

Facts about the use and advantages of modern incinerators and clothes dryers were presented from new and interesting angles by W. R. Lacey, and Mr. McCoy.

Several special entertainment features were provided for those attending the course including a sight-seeing trip to all main points of interest in the Cleveland area, and a wienie-roast and party on one of the beaches at the west end of Cleveland.

The expressions of satisfaction by those attending as to the value of this short training course on domestic gas appliances, their construction, operation and servicing, justifies the belief that it is a well-worth while endeavor on the part of the National Home Service Committee.

Those attending the course were as follows:

L. L. Anderson, East Ohio Gas Company, Cleveland, Ohio; E. G. Austin, East

Ohio Gas Company, Cleveland, Ohio; Frieda Barth, Detroit City Gas Co., Detroit, Mich.; Thelma Brown, Fla. Power & Light Co., Lakeland, Fla.; Lee Corn, East Ohio Gas Company, Cleveland, Ohio; Claire Dennen, Sears Roebuck & Co., Chicago, Ill.; Wm. T. Doolittle, East Ohio Gas Company, Cleveland, Ohio; Alice B. Fitzgerald, Brooklyn Borough Gas Co., Coney Island, New York; Lawrence E. Glueck, Cleveland Heater Co., Cleveland, Ohio; Martha Louise Grant, The Brooklyn Union Gas Co., Brooklyn, N. Y.; Paul B. Harner, Union Mfg. Co., Boyertown, Pa.; Mary Irene Hart, Aluminum Goods Mfg. Co., Manitowac, Wis.; Elsie E. Hinkley, The Tappan Stove Co., Mansfield, Ohio; J. Lithgow, Sears Roebuck & Co., Chicago, Ill.; F. M. Miller, East Ohio Gas Company, Cleveland, Ohio; L. C. Minnie, East Ohio Gas Company, Cleveland, Ohio; Joe C. Morris, Dallas Gas Co., Dallas, Texas; Marian Mundhenk, Ohio Fuel Gas Co., Columbus, Ohio; Nell B. Nichols, Woman's Home Companion, New York City; J. E. Nimmo, East Ohio Gas Company, Cleveland, Ohio; L. E. Offutt, East Ohio Gas Company, Cleveland, Ohio; W. F. Pearson, Dallas Gas Co., Dallas, Texas; Harvey W. Reichard, Union Mfg. Co., Boyertown, Pa.; Jane L. Roberts, Roberts & Mander Stove Co., Philadelphia, Pa.; H. W. Schmitt, East Ohio Gas Company, Cleveland, Ohio; C. M. Scott, East Ohio Gas Company, Cleveland, Ohio; Prudence Stevens, Syracuse University, Syracuse, N. Y.; Frances Stout, Brooklyn Borough Gas Co., Coney Island, N. Y.; Elizabeth Sweeney, Associated Gas & Elec. Co., Geneva, N. Y.; Ruth H. Tuck, The Phil. Gas Works Co., Philadelphia, Pa.; Lola M. Tyson, Detroit City Gas Co., Detroit, Mich.; Rebecca Yauger, Ohio Fuel Gas Co., Columbus, Ohio.

Visitors—Margaret B. Baker, Russell Miller Baking Co., Minneapolis, Minn.; Karen Fladoes, Equitable Gas Co., Pittsburgh, Pa.; Marie Lloyd, Standard Brands, Inc., Cleveland, Ohio; Jessie McQueen, American Gas Association, New York, N. Y.; Dorothy Shank, American Stove Co., Cleveland, Ohio; Esther Steinhart, Woman's Home Companion, New York City; Hulda Ungericht, Columbus Gas & Fuel Co., Columbus, Ohio.

Plan to Restore Gas Street Lights in Nation's Capital

(Continued from page 343)

at the regular monthly meeting of the Brightwood Citizens' Association. At the next session of the citizens' body, the new lights were unanimously approved, not only by members of the association, but by the chairman of the public utilities committee of the

Federation of Citizens' Associations as well.

This has opened the way for installation of more lights in that section and extension to other outlying sections and residential streets near the metropolitan area.

At present there are 5,318 gas lamps in use in Washington as compared with about 12,000 six years ago. The growth of electricity for street lighting has advanced so rapidly that approximately 180 of the old style lamps are being withdrawn from service each month. This is a situation prevalent in most every large city where the gas industry has operated on a competitive basis with electric power companies in street lighting. With the old lamps as the only means of combating the electric field in this line, they have been outdistanced in the field in which they were the pioneers.

Now, however, with the new lights and the added convenience of clock-regulated operation, the gas industry is in a position to claim new territory and re-claim part of the old.

Fine Safety Record

THE eight gas manufacturing plants of the Consolidated Gas Company of New York, on June 30, completed two months operation without a single lost-time accident, according to an announcement made by George B. Cortelyou, president.

Gas Held Model For Other Industries

DEFERRING to the extension of natural gas lines, "The Business Week," of July 15, among other things, said:

"Gas is an industry that in the past quarter century has done an exceptionally good job of adjusting itself to changing conditions. Its one-time market, lighting, collapsed entirely. Instead of complaining, the industry set out to develop the cooking fuel market. Now it is looking to the heating market, biggest of all.

"Certain other industries, less resourceful and more inclined to bewail their losses, might well consider this record. It is one of the most interesting chapters yet written, in the big story of inter-industry competition."

Manufacturers' Section

E. S. DICKEY, Chairman C. W. BERGHORN, Secretary DAVID F. KAHN, Vice-Chairman W. E. STEINWEDELL, Vice-Chairman

Gas Appliance Display at Heating and Ventilating Exposition

THE American Gas Association again has arranged with the management of the Heating and Ventilating Exposition to reserve a section of the exhibit hall for the display of gas-fired heating equipment and accessories at the display to be held in the Cleveland Auditorium, Cleveland, Ohio, January 25-29, 1932.

Under a similar arrangement, in 1930, in Philadelphia, a most creditable display was made. Manufacturers who exhibited and representatives of the local utilities are in accord as to the beneficial returns enjoyed from that exhibit. H. S. Christman, who represented the American Gas Association at that meeting, said: "I might say that the Heating and Ventilating show, which was the first exposition, was a huge success. From the first day to the end, both afternoon and evening, there was a continuous attendance and everyone was enthusiastic and we personally got our share of the results."

The section reserved at the 1932 exposition is strategically located from the standpoint of main entrances and ready accessibility for inspection by visitors. The gas section will cover an area of approximately 6000 sq.ft., the center booth of which will be occupied by the Association's exhibit. Several booths have also been accepted by the American Gas Association Testing Laboratory for a display of laboratory activities of interest to the heating industry.

Up to now the following organizations have reserved space in the gas section, and many others have the matter under consideration for early decision:

American Gas Association
American Gas & Testing Laboratory
American Gas Products Corp.
Barber Gas Burner Company
B-Line Boiler Company
Bryant Heater & Mfg. Company
Estate Stove Company
East Ohio Gas Company
Fox Furnace Company
Gas-Aire, Inc.
General Gas Light Company
McDonnell & Miller
L. J. Mueller Furnace Company
Pennsylvania Furnace & Iron Company
F. I. Raymond Co., Inc.
Superior Sheet Steel

Manufacturers wishing to exhibit may secure all information by addressing the Secretary, Manufacturers' Section, American Gas Association, 420 Lexington Avenue, New York, N. Y.

So many developments in heating, ventilating, and air conditioning practice and equipment have been reported since the previous exposition that the displays at the Cleveland Show are being awaited with keen anticipation, since many of them undoubtedly will be in the nature of premier presentations of the latest apparatus and devices.

One advantage the forthcoming show will have is its central location in the Cleveland Public Auditorium Annex. This building is in the heart of the Cleveland business district and within a few blocks of the leading hotels. Another advantage is the fact that the exhibits, particularly those containing coal, gas and oil-burning equipment, will be

seen in full operation. It will be recalled that this feature distinguished the previous exposition in Philadelphia and aroused wide comment, especially on the part of those interested in the gas and oil burner sections. Previous to that time it had been impossible for oil burner shows to overcome the ban of the local fire departments against the burning of oil and various were the expedients utilized by oil burner manufacturers to provide a semblance of reality to the operation of their burners. How inadequate these expedients were was realized only when the First International Heating and Ventilating Exposition in Philadelphia demonstrated by actual operation the flame characteristics of the different types of oil burners when installed in the boilers they were to operate.

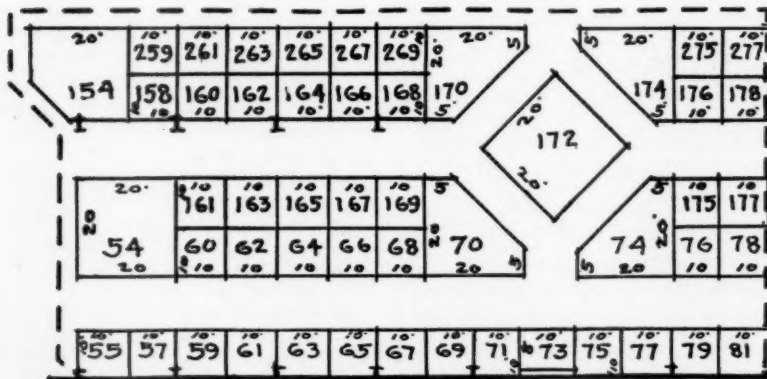
An idea of the comprehensiveness of the Second International Heating and Ventilating Exposition is to be seen in the fact that it will embrace separate sections, one for the heating and ventilating industry in general, an oil burner section, a gas section, and a warm air section. In addition to the endorsement of the American Society of Heating and Ventilating Engineers, the Exposition will have the active support of the American Oil Burner Association and the American Society of Refrigerating Engineers. All three of these organizations will have booths at the Show, making the Exposition in fact representative of every branch of heating and ventilation.

The fact that the American Society of Refrigerating Engineers will hold its annual meeting in Cleveland simultaneously with that of the American Society of Heating and Ventilating Engineers has made it possible to arrange for a joint session of both societies during the Exposition. This meeting will be held in the Cleveland Auditorium which is admirably suited for just such a gathering.

List of Exhibitors Grows

SINCE the last publication of the list of exhibitors who will have displays at the annual convention and exhibit of the American Gas Association, in Atlantic City, next October, the following manufacturers have been included:

Spare
Kellogg Mann Co., Inc. 808
American Furnace Co. 835



Area reserved for gas appliances and equipment

Sales Administration and Management In the Gas Industry

—A Study Course for Sales Executives and Supervisors

THIS course of study is based upon a comprehensive survey of the Gas Industry. It brings to chief sales executives and supervisors detailed information about the plans and methods that *are increasing sales and decreasing selling costs* in other gas companies. SALES ADMINISTRATION AND MANAGEMENT summarizes the experience of the industry in laying out sales policies and managing the sales force.

ENROLLMENT: \$50

For Further Information Address

COMMERCIAL SECTION

AMERICAN GAS ASSOCIATION

420 Lexington Avenue

New York, N. Y.

Publicity and Advertising Section

DONALD M. MACKIE, Chairman

ALLYN B. TUNIS, Secretary

WILLIAM H. HODGE, Vice-Chairman

Advertising and Its Relationship to Changeover by Gas Companies from Manufactured to Natural Gas*



Paul Renshaw

THERE are numerous problems involved in a changeover of this nature. All of these seriously affect the utility's interests, and tax its efforts. Hence, before entering a discussion of the essential advertising factors in a changeover, I should like to make brief reference to some of these problems, and to suggest where one may find helpful discussions of them.

At the convention of the Natural Gas Department of the American Gas Association in Kansas City, in 1929, H. C. Abell, president of the National Power and Light Company, read a very comprehensive paper on the subject "Changing Over a City's Gas Supply." It dealt with the experiences he had just previously had in the changeovers at New Orleans and Memphis. In that paper he emphasized some of the problems that an executive meets, especially with promoters seeking to grind their axes in various ways. He also discussed the important matter of arriving at equitable agreements with municipal and political authorities respecting rates and franchise matters. Of course, these are preliminary details which do not get into the advertising and publicity; but, as indicated above, are matters of importance about which the advertising man needs to have some general knowledge. Mr. Abell's paper also reviews the surveys made for commercial, industrial and domestic purposes in the cities; and, as exhibits, presented two very valuable papers by W. A. Dunkley, superintendent gas department at Memphis, reviewing the engineering and service features on the Memphis property; and by A. E. Merchant, commercial manager at New Orleans, outlining the operations in that city.

Another valuable discussion of the general plans for the changeover to natural

By PAUL RENSHAW

Advertising Manager, Memphis Power and Light Company, Memphis, Tenn.

gas is contained in an article by Elliott Taylor, San Francisco manager of *Western Gas*, published in the August, 1930, issue of that magazine under the caption "Preparing a 101,000 Meter District for Natural Gas Service." In this article Mr. Taylor sets forth very clearly the activities of the Pacific Gas and Electric Company in cutting-over the metropolitan district in San Francisco. Incidentally he points out that the procedure followed in this district was an example of what was done in each of the eleven districts of the system. The paper gives a set up for the organization necessary, reproduces a number of the forms that were used, and gives much detailed information, even showing a list of the tools which were in the hands of the workmen. It is particularly interesting also that this article reproduces the Manual of Instruction to employees engaged in the work of adjusting the appliances and making the preliminary survey. This manual served as the basis of the training given the crews in preparation for the cut-over, and includes many points which are of especial interest to the Advertising and Public Relations Department, as well as to the Service Department that is preparing for a changeover.

Of especial interest to advertising men should also be the paper by Frank R. Jamison, director of publicity, Public Service Company of Colorado, delivered at the American Gas Association Convention in Atlantic City, in 1930. His subject was "How the Changeover from Manufactured to Natural Gas Affected Company Advertising and Publicity." In this paper Mr. Jamison outlines quite clearly and fully the plan of the changeover in Denver, and gives details of advertising and card forms which his company used. It contains much helpful information for the Advertising Department in any company where a changeover is in prospect.

In an article on "The Romance of Gas in New Orleans" by A. B. Patterson, of the New Orleans Public Service Company, published in the May, 1930, issue of *Western Gas*, there is an interesting review of the advertising which his company did at

the time of its changeover to natural gas. This likewise is worthwhile for the advertising man interested in this subject to review.

I desire to emphasize the fact that the advertising department of a utility must have a general background of information relating to all the different phases of service which the company will be called on to render at the time the changeover is made. Indeed, as all advertising men know, a thorough knowledge of a subject is always desirable in the preparation of advertising, for no advertisement either can or should be full enough to tell everything its writer knows about the subject at hand.

In other words, as I see it, the big job of getting ready for advertising the changeover to natural gas, as well as of writing any advertisement, needs to be done before we actually plunge in to do the job. It is comparable to writing a newspaper story. The first step for the reporter is to get the facts. Usually it takes a good deal more time to secure the facts than it does to write them into words. It is a simple thing to write after one knows what he wants to say.

There are certain fixed principles that apply to advertising which brings it within the classification of a science; but at the end of these principles there enters art, which depends upon the ingenuity, individuality and personality of the advertiser. If one lacks the element that I am terming "art," he is limited, in preparing his advertising, to the fixed scientific principles that are determined by mere words, type, picas and borders. If, however, he has enough art within him to individualize his advertising, he can carve out in his own imagination, pictures that will visualize his ideas to others in simple, striking ways, and so impress the community with his message. So will it be when he comes to tell the story of the changeover.

In the plans of the gas company for a changeover from artificial to natural gas there devolves upon the advertising department the duty and responsibility of making the message of the company articulate in the public mind. It is the department's obligation to give full expression of the company's plans and facilities for satisfying its customers in providing and supplying the new type of fuel, and making them want to use it.

* Digest of paper presented at the annual convention of the Public Utilities Advertising Association, New York, N. Y., June 16.

The advertising for this event, in my judgment, should be a mirror of the facts. It should tell the public about the pipe line company, the distributing company, the definite activities in preparing for the introduction of natural gas, as much as may be interesting about the methods in carrying on these activities, and a picture of the advantages the new type of fuel will afford in building up commercial enterprises and making the city a better place in which to live. The job is to let the people know how your company is going to serve them with natural gas, and to make them want to use it. Like that of the showman who must make people want to see his show when it comes to town, so the advertising should make people want to use natural gas when it becomes available.

In the papers to which reference is made, the details of actual cut-overs have been clearly and fully told, though the general aspects of a publicity plan for the period preparatory to the conversion period are not treated. And it is this phase of the subject I wish now to emphasize.

Advance Advertising

In my judgment the advertising for the changeover should begin several weeks or perhaps months in advance. All available media should be used, with the newspapers as the backbone of the campaign.

In our own case, as soon as our plans were complete, we printed a large newspaper advertisement headed "Natural Gas is Assured for Memphis." This advertisement showed in map outline the location of the gas fields, in another state; where the pipe line would cross the Mississippi River, and the route it would follow through another state to our city. It further gave information regarding the number of gas wells in the field, the size of the pipe line, its capacity under normal pressure—which was about 12 times the capacity of our manufacturing plant; and gave general assurance to the public of adequate fuel-supply with natural gas.

In a series of later advertisements we told of our plans of reconditioning our gas mains to accommodate the new type of fuel, explaining the need for this; explained the purpose of our plans in making a survey of gas appliances in use in the city; and otherwise informed the public as definitely as we could regarding the company's activities as they related to public welfare in the introduction of natural gas.

At first these advertisements were used at intervals of about two weeks, but as the data for the actual cut-over approached we were using advertising in each newspaper each week.

Simultaneously, throughout this period we were also using a half showing of thirty-two outdoor boards in our city of 250,000 people; a showing of ten fifty-foot motion picture reels in suburban theatres, and a full showing of street car cards in the 300 street cars of the city.

The outdoor boards and the street car

cards carried identical messages and one of these read, "Memphis Will Soon Have Natural Gas—the Ideal Fuel for Factory and Home Use." Another read, "Memphis Will Be a Cleaner City with Natural Gas—the Ideal Fuel." The design of these and other posters was to popularize the idea of natural gas.

In our advertisements on the screens of the theatres we sought to show that natural gas as a fuel could be adapted for domestic use in heating plants. We also tried to make these informative by telling the people it would be necessary to adjust their appliances for the new type of fuel. The design of these advertisements was primarily to make people want to use the fuel in their home. In our judgment, this sort of preliminary advertising is necessary so as to inform the people on the uses of natural gas, its adaptability and convenience for commercial, industrial and domestic purposes, and its advantages as a civic asset.

Preliminary Conferences

While it will be quite profitable to the advertising manager to study the plans and methods that other companies have followed in cutting-over their systems, his best preparation will come by sitting-in at the conferences when the plans for his own company are being made. In our company we held such conferences once each week during about two months prior to the actual cut-over. At these meetings were the general manager, the superintendent of the gas department, manager of the utilization department, the purchasing agent, the commercial manager, and the advertising manager. We had the benefit of the experience of Denver and New Orleans, but each detail of every phase of our own activity was considered in our adaptation of their ideas.

Out of these conferences can be gained the first-hand knowledge that enables the advertising department to intelligently tell the company's story.

Public Speaking

In addition to the advance advertising, as suggested above, we found that talks before civic clubs were very effective mediums for spreading information regarding the coming of natural gas. An unsolicited invitation came to us from one of these clubs which taught us their value as a medium of publicity. A newspaper reporter was present and gave a rather full account of what was said in the next morning's paper. Other clubs promptly sought a speaker from our company to tell their clubs about the subject. Each talk was purely informative. We did not try to propagandize or "sell" gas as a fuel. We merely sought to tell them of our plans, of the supply that would be available, the rate schedule that would apply, and otherwise gave them information that we thought was of public interest. In each case after a talk had been made questions were put to the speaker, manifesting the

general interest audiences had in the whole subject. It is usually impractical to condense full information on such a subject within the time available for a luncheon talk, and the questions that were asked gave us many advertising cues. In fact in one of the advertisements which we ran, we used the caption "Questions and Answers Regarding Natural Gas" based upon the type of questions that had been asked of us at these gatherings. Practically every civic club in town invited us to speak before them. If it is necessary, it is worth seeking the invitation by any company having a changeover in prospect, to get before these clubs, for then opportunity is afforded to give out, in a wholesale way, first-hand reliable information which becomes valuable mouth-to-mouth advertising in your company's behalf.

Regarding "Publicity"

There is a great deal of news of interest to the papers in connection with the introduction of natural gas. It begins with stories that the gas is to be brought to the city. It continues with stories regarding pipe line construction. And these are followed by stories regarding the work necessary on the distributing company's system of mains. Throughout these stories there is frequent reference to the rates at which the gas will be sold and the cleanliness, convenience, comfort and other features of it as a fuel. It is the obligation of the advertising and publicity department to watch these stories carefully. When the matter for the stories is given out by other sources, it is possible for errors that may be damaging to creep into the reporter's statements. If errors occur they can be corrected. Of course it is desirable for the Publicity Department of the company to suggest stories, and to give out accurate information. I should like to emphasize, however, that I have very positive feelings against any effort to "type" news. Having once been a newspaper reporter, I am very jealous still of the integrity of the news columns of a paper. It is my feeling that news editors are, and of a certainty ought to be, the arbiters of the matter going into their columns as "news." No advertising buyer should ever try to use the influence of his account with the Editorial Department of a paper; and the news editor is eminently right when he ignores every influence that may warp the integrity of his columns.

By that it is not meant that "news" is not to be supplied when the editor wants it. On the other hand, it should be; and it is a favor to the editor and his reportorial staff when this is done. As indicated above, there is much real news matter that the editor wants and which the Advertising and Publicity Department ought to supply in connection with a changeover. The best way for the editor to get the facts right is to get them from those most closely identified with them; and the best way to give it out is to make it free from propaganda and limited to news

that is reliable. When an editor knows he can rely on you he is your friend. For news to him is the life's blood of his paper, and he holds it above price. But it isn't worthwhile to try to fool him. He is usually about as smart as the advertising man; and he can be relied on to be a better judge of what constitutes news. The editors with whom I have contacts understand that when I offer them a story I think it is "news," but that if they do not think so I am satisfied with their judgment and I think that makes for happy relations between the Advertising and Publicity Department of a utility and the newspapers serving the community. The metropolitan newspapers of today are running encyclopedias of world events. The matter for them is gathered, produced, and put before us in a readable form, within an incredibly short time. Considering this, it is a marvel that more errors do not creep into news columns. But anyone who has ever played around newspaper offices knows that every news editor is exacting of his staff for accuracy in their statements. If you find something wrong and you show the editor that it is wrong in his paper, he is usually quite as anxious to have it corrected as you might be to get it corrected. My feeling regarding them is that they are fair, and by all means that we should be fair with them so that they may regard us as reliable sources for news relating to activities within our industry.

Advertising During the Changeover

Thus far in this paper I have spoken particularly of the advertising, public speaking and publicity leading up to the time for the actual cut-over. The most intense advertising, in my judgment, should be done at the time the cut-over is being made. This will require the use of free newspaper space, and direct mail cards to customers within certain areas.

On our own property we divided the city into five zones, each receiving gas separately. All appliances within a particular zone were adjusted for use of natural gas before the gas was turned into the succeeding zone.

On the day before the natural gas should be turned into a zone area, we inserted an advertisement in all the daily papers announcing the fact. For example, our first advertisement of this nature read "Natural Gas Will Be Turned into Zone No. 1 Tomorrow." After we had completed the work of converting the appliances in this zone, and were ready to send the crews to zone No. 2, a similar advertisement appeared, making the announcement for that zone. And likewise throughout the series.

In addition to the newspaper advertising a red mailing card was sent to each residence within each particular zone. A survey of the city had been made, and card forms had been prepared, showing every house number in the city. Each of these, whether vacant or occupied, received one of these cards. If the occupant's name was not known, we simply addressed the card to

"occupant" at a given address. This card advised that natural gas would be turned into the mains supplying their service on or about a date that was given. It suggested caution in the use of the appliances until our service crews should reach their premises and make adjustments for use of the new type of gas. In order to time the proper mailing of this card, it is necessary for the Advertising Department to keep in close touch with the Service Department to know definitely when the gas is to be turned into a new area.

Throughout the conversion period there will be found need for various types of cards to be used by the service crews. For example if the workmen find no one at home, a card form should be provided that may be hung on the doorknob announcing that they have been there for the purpose of adjusting appliances but finding no one at home, will return the next day. Other card forms should be provided to be attached to defective appliances, or appliances which for some reason or other are not in useable condition until being given further attention.

It is worth mentioning that our company organized special service crews for converting every appliance without cost to domestic consumers. In the case of commercial and industrial appliances our costs of the work were charged to the customer. We first adjusted all cooking and water heating appliances, and special crews later went over the same territory for adjusting heating appliances in homes where a previous survey had shown these to be.

In order that these crews might not be delayed in their work, we frequently inserted advertisements in the newspapers requesting that residents within the zone where the workmen were engaged should either remain at home or have someone there to permit the work to be done promptly.

Extra Telephone Service

While it is not a function of the advertising department, but one primarily for the service department, extra telephone service is necessary during the changeover. In our case, we used eight extra lines, installed temporarily, for answering customer calls of every kind. In addition, there were special lines reserved for use of the crews in the field for calling-in to get directions, or specific information desired.

No one who has ever been through a changeover could anticipate the rush of calls that will come at the period. They will be of every conceivable nature; and service men of experience and calm judgment are needed at such telephone desks. They will be the most important customer contacts the company has during that period for they will be besieged with every type of request by customers.

Complete Heating Service

In our advertising designed to sell the use of gas we have hit upon the phrase "Natural Gas, More Than a Fuel—a Com-

plete Heating Service." We continue after more than two years to use that phrase. We believe it suggests the superiority of the gas to crude fuels. In our advertising we sought to explain the meaning of the idea by calling attention to the fact that it requires no labor in handling, it is automatic in its flow, it is entirely flexible being governed by electrically controlled thermostat—and that altogether it is free from every annoyance that applies to the burning of crude fuels.

It is our idea that the story the customer likes to have presented to him is from his angle—what it means to him in comfort, luxury, health and well being to himself and his household. With the proper presentation of these features, cost in the minds of most people is secondary. When advertising tells the customer of natural gas that we have something that will provide for him a heating service, either in his business, his factory or his home, which is about perfect; and that this service means carefree heating, even temperature and better conditions for him and those about him, then we are playing upon the right psychological note. Of course, there is art in telling the story—but there is art in everything, from bricklaying to advertising.

W. D. Thurber Wins Prize For Advertisement



W. D. THURBER, advertising manager of the Southern Counties Gas Company, Los Angeles, Calif., and a member of the Managing Committee, Publicity and Advertising Section, American Gas Association, was among the prize winners in an advertising contest sponsored by the Pacific Advertising Clubs Association. Herewith is reproduced, in reduced size, Mr. Thurber's prize-winner, which was prepared for the Southern Counties Gas Company.

Industrial Gas Section

D. W. CHAPMAN, Chairman

C. W. BERGHORN, Secretary

A. J. PETERS, Vice-Chairman

Industrial Publicity

ONE of the most valuable means for keeping gas before the eye of industrial leaders in their fields is to secure adequate representation among the articles appearing on the pages of various trade magazines. For several years J. B. Nealey has been on the American Gas Association staff as a part time employee, preparing articles on the industrial uses of gas. This work has built up many valuable editorial contacts, and has paved the way towards a wider recognition of the greater usefulness of gas.

In addition to the work of Mr. Nealey, gas engineers contribute from time-to-time to the trade papers. H. O. Andrew, chairman of the Industrial Publicity Committee, reports the accomplishment so far this year as follows:

Fifty articles written and merchandised to the industrial engineering paper field; twenty-five additional articles waiting for approval or photographs. Twelve articles from *Industrial Gas* reprinted in as many mediums. Thirty original articles published.

This work is of such importance that it might be well to point out to industrial departments that regular efforts should be made to contribute articles to the engineering press. Such work supplements the national advertising carried out by an Industrial committee headed by J. F. Weedon, who recently reported that the portfolio containing reproductions of the advertisements used in the current industrial advertising campaign was recently mailed to all gas company members. To obtain the fullest value out of the campaign which is being carried on, it is evident that proper articles should be appearing regularly. Most manufacturers are delighted to have descriptions of the gas applications in their plants receive this kind of publicity, because it represents valuable advertising for them at the same time. If articles are forwarded to H. O. Andrew, chairman of the Industrial Committee, at A. G. A. Headquarters, arrangements will be promptly made to publish them in suitable mediums.

A. G. A. Participation in the Steel Treating Convention

FOR a number of years the American Gas Association has participated with increasing success in the national convention and exhibition of the American Society for Steel Treating. Those who have attended these exhibitions can testify to the showing made by the gas industry, especially for the past few years, when the Association took a large portion of the available space, and grouped all of

the exhibiting gas appliance manufacturers in one location.

The financing of such a move, as described by L. B. Crossman, chairman of the Committee on Display and Contact with National Industrial Organizations, is to be carried on jointly by the American Gas Association and the gas companies in the New England territory, since the show is being held in Boston this year. The importance of cooperation, both in assisting with the financing and in participation should not be overlooked, since the sale of gas to the steel industry has growing value.

Approximately the same manufacturers are going to take space this year at Boston as exhibited last year in Cleveland, and the industry is thereby promised a splendid showing at this important exhibit.

Papers will also be read dealing with gas at the meetings of the Society, thereby ensuring a full and active participation of the gas industry in the program of the American Society for Steel Treating.

Water Heating

PROGRESS in volume water heating is reported from many sources, and it is evident that this class of business will eventually prove most important in helping to offset winter peak loads due to househeating.

On June 3, the Large Volume Water Heating Committee of the Industrial Gas Section reported that contact had been made with the American Institute of Architects which promises interesting developments not only in informing the architect on the value of gas for large volume water heating, but to develop a general contact with architects to increase the uses of gas.

The results of one large city's activities in the large volume water heating field indicate clearly that the use of the A. G. A. book "Water Heating," available to members at \$1.50, was a big factor in closing sales. Such being the case, it certainly is important that every gas engineer secure a copy of this valuable book at the earliest opportunity. This may be done by mailing your order to A. G. A. Headquarters.

Utilization Data Committee

J. F. QUINN, vice-chairman of this committee, reported at the June 3 meeting of the Industrial Section Managing Committee that further progress had been made in the collection of Industrial Data Sheets. A typical data sheet was described in the July A. G. A. MONTHLY.

In accordance with the program that the committee outlined, letters were addressed to forty-four industrial gas equipment manufacturers. To date the following response has been had:

Continental Industrial Engineers will fill out eight sheets; Eclipse Fuel Engineering Co. have sent twelve; Hagan Co. four sheets; Holcroft & Co. do not care to publish information; Kenworthy will try to work up something; Mahr Mfg. Co. six sheets; Ryan, Scully & Co. twenty-four sheets; Surface Combustion Corp. thirty-eight sheets; Tate-Jones Co. twenty-five.

These sheets will be carefully studied, and the best data selected to present to the industry, representing the progress made in industrial utilization.

Discharge of Gas From Appliance Orifices

SINCE so many changes are being made in B.t.u., gravity and heating value of gas, it was thought advisable to include in the new edition of "Combustion," now in course of preparation, charts giving the discharge of gas from orifices ranging from size M drill manufacturers standard to 70 D.M.S., at pressures varying from 2½ to 70 inches of water.

These charts have proved so useful that it was decided to make them separately available, and they were therefore blueprinted on large size sheets, fourteen inches square, a set of three charts being necessary to cover the range indicated. These are available for 75 cents a set, or 25 cents each. The first chart covers M to 18 D.M.S.; the second, 19 to 49 D.M.S.; and the third, 50 to 70 D.M.S.

Safety Pamphlets Available

THE following pamphlets giving recommended safety practices which have been prepared by a joint-committee of the Technical Section and the Accident Prevention Committee of the American Gas Association are available at Association Headquarters:

1. General Plant Safety Rules.
2. Safe Practices in Producer Plant Operation.

These pamphlets are part of a series of pamphlets now in preparation giving recommended safety practices for the gas industry. They are available, at 2 cents per copy, in Lefax size.

Accounting Section

J. I. BLANCHFIELD, Chairman

H. W. HARTMAN, Secretary

WILLIAM A. DOERING, Vice-Chairman

Office Equipment Committee Sponsors Open Meeting

AN open meeting for discussion of customers' accounting systems, particularly the application of machines to this work, will be sponsored by the Committee on Development of Mechanical Office Equipment on Monday, October 12, at Atlantic City, in connection with the annual meeting of the Accounting Section of the American Gas Association.

The purpose of the meeting is to bring to the attention of public utility accountants those customers' billing methods that have been proved efficient in operation. Systems involving the use of the equipment of the various accounting machine companies will be described by representatives of the utility companies using the equipment.

Motion pictures, lantern slides, and enlarged exhibits, as well as actual accounting machine demonstrations, will be used in presenting detailed descriptions of the procedures and the results ob-

tained. Ample time will be provided for full discussion from the floor.

Judging from the keen interest already displayed in this proposed meeting by the members of the Accounting Section, it is anticipated that this ever popular and always debatable question of the application of machine methods to customers' accounting will again prove extremely interesting. Leading utility companies are cooperating with the committee in the preparation of detailed studies of actual installations and the impartial discussion is expected to result in a lively meeting.

The committee last year held a decidedly successful meeting on the application of machines to general office accounting. The coming meeting on customers' accounting, which appeals to a larger group, will be equally as valuable to the accountants of the industry, in bringing up to date this most important subject.

connection with an informal dinner at the university will follow the session for utilities.

Early notice of registration will be advisable for facility in accommodations.

Gets McCarter Medal



R. O. Evans

FOR saving the life of a woman who had been overcome by gas, Raymond O. Evans, an employee of The Laclede Gas Company, St. Louis, Mo., was presented with a McCarter Medal

at a safety rally on June 10.

This medal, made available through the generosity of Thomas N. McCarter, is awarded only for resuscitation from gas asphyxiation by the Shafer prone pressure method.

The presentation to Mr. Evans was made by Thomas P. Chapman, president of the St. Louis Safety Council, at a meeting when eight men received medals for life-saving.

Rutgers Plans Session For Utility Employees

A SESSION devoted exclusively to employee training problems for utility men will be the outstanding feature of the sixth annual extension conference conducted at Rutgers, September 10 and 11, by the University Extension Division. It is expected that delegates from the many branches of the utility field in all parts of the country will arrive in New Brunswick next month to participate in this special phase of extension education.

Professor N. C. Miller, director of the University Extension Division, made the statement in a recent announcement that "according to statistics in the hands of the extension division, at no time in recent years has there been such a widespread interest in educational programs on the part of utility employees. Indications are that the coming year

will show still greater interest in employee training programs. For this reason the extension division has arranged a special conference for utilities to attack the problems which have arisen and which will occur in this field."

First developed as an open forum for the examination and understanding of the educational programs in industry six years ago, the Rutgers extension conference has assembled each succeeding year the leading figures in this important field of education as well as representative leaders from industries. Led by national authorities, prominent in educational and industrial circles, the conference this year is expected to evolve some exceedingly valuable and illuminating angles on current conditions. An evening session in

Model of City System Shown in Oklahoma

THE Oklahoma Natural Gas Corporation displayed a model of the Oklahoma City production, transportation, compressing, regulating and distribution system of the company at the "Better Homes Exhibit" staged recently at Oklahoma City. The model proved to be an interesting feature and was inspected by several thousand people.

The machinery and equipment utilized by the company in its system was reproduced on a miniature scale, making the exhibit of high educational value. The model is now on display at the offices of the Oklahoma Natural Gas Corporation at Oklahoma City.

Natural Gas Department

H. C. COOPER, Chairman

E. J. STEPHANY, Secretary

H. L. MONTGOMERY, Vice-Chairman

Oklahoma City Considering Municipal Gas Plant

A SPECIAL committee of the City Council of Oklahoma City recently recommended calling of an election to vote on question of purchasing or installing a municipally-owned natural gas distribution system in Oklahoma City. The Council has approved this report, but has not taken any steps toward calling an election. A \$4,000,000 bond issue was recommended.

The Oklahoma Natural Gas Corporation is now supplying natural gas service to that city. The question of a suitable supply is one of the chief issues involved in the agitation for a municipal plant. Advocates of the proposal claim that there is an abundant supply of natural gas in the Oklahoma City field to justify such a venture and that the close proximity of this supply would indicate that Oklahoma City should have lower gas rates than apply to other towns on the Oklahoma Natural's system, which are not so near to a gas supply.

Opponents of the proposal point out that the Oklahoma Natural Gas Corporation brings natural gas to Oklahoma City from more than thirty fields through several pipe lines and that the additional security resulting from being connected to many fields would make the establishment of a municipal gas system, connected

to only one source of supply, an unwise investment.

Hubert Bale, Oklahoma City, geologist, who, eighteen months ago, filed a report with the city manager of Oklahoma City, estimating that the Oklahoma City gas fields, from which it is proposed to secure gas for a municipal system, offered a supply for 1,017 years, has since revised his report. On June 24, Mr. Bale filed a supplemental report with the city declaring that since the original report was compiled there has been radical changes in the field. On account of these changes, he states, the Oklahoma City field cannot be considered a source of supply for pipe lines in addition to those now operated. He stated that since his former report the Oklahoma City field has developed into one of the greatest oil fields in the country and that many millions of barrels of this oil must by necessity be lifted by gas, which will eventually be taken from the shallow sands or supplied to the field by pipe lines now taking gas from the field. He also stated that several pipe lines have been constructed into the field since his former report. "I am firmly of the opinion," states his supplemental report, "that neither Oklahoma City nor any other city can rely upon the Oklahoma City field solely for its natural gas requirements."

New Marketing Plan For Stargas

A DECIDED change has come over the drum gas business in Texas. This latest development in the natural gas industry started out about two years ago as a highly specialized business, distinctly and sharply separated, both in name and selling method, from the natural gas public utility business. But experience has shown that drum gas is really a service of the natural gas utility and not a separate and special product.

The principal drum gas sold in Texas is Stargas, a product of the Lone Star Gas Company. At first Stargas was introduced under a plan of selling the Stargas cabinet and drums outright to the customer with a certain charge for the Stargas product. A separate Stargas sales department was created and the business was conducted in all respects as though Stargas were a separate commodity unrelated to the service of the utility.

Now this has been changed. Stargas is considered an extension of the service of the Lone Star Gas Company. The drums

and cabinets are no longer sold outright to the customer but the customer pays an installation charge of a few dollars. This charge might be compared to a meter connection charge. The equipment remains in the ownership of the company the same as an ordinary gas meter remains the property of the company. The rate for this drum gas service consists of a service charge similar to that required in pipe line service, except that it is paid annually in advance, requiring only one billing a year and a commodity charge. The commodity charge is so much per drum, with a sliding scale, the rate decreasing as the volume increases.

A customer living beyond the pipe line can now make application for drum gas service at the nearest gas office in the same way that applications for pipe line service is made. Among other things this new method of handling drum gas has done away with one difficult problem. When gas mains were extended into outlying districts of cities, the customers who had purchased drum gas equipment under the old scheme presented a problem for the company. This has been eliminated.

Under the new arrangement, the Lone Star Gas Company, which produces the drum gas, delivers the drums to its various distribution companies, and this method compares with delivery of pipe line gas to the city gates of the various distribution companies.

The new method of handling the product has stimulated sales, even in the time of depression, and since more than half the population of Texas does not at present have gas service, it is believed the drum gas service will become increasingly popular in this state.

Instructions for Testing and Repairing Gas Meters

Compiled by
GEORGE A. LANE
and
WILLIAM A. CASTOR

PUBLISHED BY

AMERICAN GAS
ASSOCIATION

Twenty-five Cents
Per Copy

A. G. A. Officials Attend First International Gas Meet

(Continued from page 349)

P. Mougin, Paris, General Secretary, *Union Syndicale de l'Industrie du Gaz en France*.

Dr. H. Schütte, Bremen, Immediate Past-President, *Deutscher Verein von Gas- und Wasserfachmännern, E.V.*

Dr. Karl Lempelius, Berlin, Managing Director, *Deutscher Verein von Gas- und Wasserfachmännern, E. V.*

J. Rutten, The Hague, President, *Vereeniging van Gasfabrikanten in Nederland*.

Prof. G. A. Brender à Brendis, The Hague, Professor at the Technical University, Delft, *Vereeniging van Gasfabrikanten in Nederland*.

Gyozo Schon, Budapest, Chief Gas-Works Director, *Magyar Gáziparok Országos Szövetsége*, Hungary.

H. Morioka, Kobe, Engineer of the Kobe Gas Company, Japanese Imperial Gas Association.

A. E. Buckley, Engineer and General Manager of the Malta and Mediterranean Gas Company, Malta.

John Irminger, Bergen, Immediate Past-President, *Norske Gasverkers Forening*, Norway.

H. M. Tysoe, Engineer and Manager of the City of Johannesburg Gas Department, South Africa.

G. H. Hultman, Stockholm, President, *Svenska Gasverksforeningen*, Sweden.

Fritz Escher, Zurich, President, *Union Internationale de l'Industrie du Gaz*, Past-President, *Société Suisse de l'Industrie du Gaz et des Eaux*.

Lt.-Col. G. E. H. Zollickofer, Zurich, Secretary, *Société Suisse de l'Industrie du Gaz et des Eaux*.

Rudolf Vrbanc, Zagreb, President, *Yugoslavensko Plinarsko i Vodovodno Udrzenje*, Yugoslavia.

John N. Whyte, Chief Engineer and General Manager of the Montevideo Gas and Dock Company, Uruguay and W. H. Cattell, of Birmingham, the New Zealand Gas Institute.

J. R. W. Alexander, secretary of the Institution, having announced that greetings also had been received from the Gas Associations of Denmark, Greece, Italy, Poland, and Spain, President H. E. Copp of the British Institution welcomed the overseas delegates to the platform.

In view of the large number of delegates, it was impossible for all to speak. Addresses were made by Herr Escher, Sir David Milne-Watson, M. A. Baril, past-president of Association Technique; Dr. H. Schutte, of Bremen; and Mr. Paige and Mr. Forward.

The addresses by Mr. Paige and Major Forward were published in the July issue of The A. G. A. MONTHLY.

Off the Press!



1930 Proceedings of the American Gas Association

Proceedings of the Twelfth Annual Convention of the American Gas Association is an invaluable Reference Book, containing

2,000 Pages

It is a Year's Record of the Gas Industry.

It contains all discussions, reports and minutes of the 1930 Convention.

Copies Supplied to Members at \$3.00 a copy.

Copies Supplied to Non-Members at \$7.00 a copy.



ALL REQUESTS FOR COPIES SHOULD BE ADDRESSED TO THE

American Gas Association

420 Lexington Avenue

New York, N. Y.

Gas Appliance and Equipment Developments

The EverHot Gas Filter

The EverHot Gas Filter, which is standard equipment on EverHot Automatic Water Heaters, has recently been made available to Utilities for installation in connection with other gas appliances.

Information on the EverHot Gas Filter can be secured from the EverHot Heater Company, Detroit, Michigan.

New Type Oxweld Goggles

The Linde Air Products Company, 30 East 42nd Street, New York, N. Y., has introduced a new type of welders' goggles, designated as Oxweld No. 12 goggles. This type embodies features never before found in safety appliances of this kind. Comfort is assured since they are designed to fit the eyes and are adjustable to conform to the individual nose.

Loose-Leaf Catalog

Shallcross Control Systems Co., Milwaukee, Wis., has brought out a new loose-leaf catalog describing equipment. This concern continually publishes new sheets and revises old sheets, which keeps the catalog always up to date.

Sales Bulletins

The Ruud Manufacturing Company, Pittsburgh, Pa., has published several new sales bulletins on the subject of Volume Water Heating, as follows: No. 104, "The Specification of Volume Water Heating"; No. 105, "Ruud Automatic Water Heaters and the Mechanical Car Washer"; No. 110, "Special Uses of Ruud Automatic Water Heaters"; No. 111, "Ruud Water Heaters for Heating Swimming Pools"; No. 112, "Hints for the Gas Executive on Volume Water Heating"; No. 115, "Mechanical Facts on Ruud Multi-Coil Automatic Storage Systems." Copies will be sent on request.

Book Note

The Magnus Chemical Company has recently published a book entitled "The Cleaning of Metal," which may be secured on application to this company at Garwood, N. J. It gives an excellent picture of the problems of cleaning, pickling and handling of metals preparatory to japanning, lacquering, galvanizing, etc. The illustrations show some excellent applications of gas for this purpose, and although it is intended to advertise the products of this company, there is a good deal of useful information in it for the gas industry.

Names Chicago Representative

The Peerless Heater Company, Boyertown, Pa., announces the appointment of

Contributions of news items by manufacturers of gas appliances and equipment to this department will be welcomed by The A. G. A. Monthly. On account of space limitations, all announcements of new products, improvements, etc., should be limited to about 100 words. No attempt will be made to describe each product or give details of construction. For such details address the manufacturer direct. Where justified, photographs will be used to illustrate these brief items. All contributions to this department should be addressed to C. W. Berghorn, Secretary, Manufacturer's Section, American Gas Association, 420 Lexington Ave., New York, N. Y.

the Himmelblau, Agazim Company, 30 North Dearborn Street, Chicago, Illinois, as its sales and service representative for the Chicago District in Northern Illinois and Eastern Indiana.

Government Order

Information has been received from Washington, that the Sands Mfg. Co., Cleveland, O., was awarded a contract for approximately 2,000 large automatic storage water heaters by the United States Government. These heaters will be placed in army posts throughout the U. S. A.

New Monobloc Pumping Unit

The Monobloc (Type D) Centrifugal unit recently has been placed on the market by the Worthington Pump and Machinery Corporation, Harrison, N. J. Applications of this new unit are many, and it should be of value as a built-in part of assembled equipments such as air conditioning apparatus, dish, bottle, can and metal-parts washing machinery, filters and filter systems, dairy equipment, core sucking units and others.

100 Years in Business

This year the Fuller-Warren Company, Milwaukee, Wis., is celebrating its hundredth anniversary, and one of the features of the event was the announcement of the Centennial Line of Stewart Ranges.

To Develop Integrators

It is announced that the Pittsburgh Equitable Meter Company has acquired all assets of the McGaughy Integrator Company, Tulsa, Oklahoma. The consolidation of the two companies will provide

better service, resources and manufacturing experience for the users of integrators.

Takes Over New York Territory

J. M. Traugott, eastern sales manager, has been put in charge of gas heating equipment sales in the New York territory by the Bryant Heater & Mfg. Co. H. D. Gillingham, formerly division manager, has taken over the Northern New Jersey territory.

Henry L. Doherty Honored by Lehigh University

(Continued from page 340)

"Henry Latham Doherty, engineer, scientist and industrial and financial leader: In recognition of your distinguished contributions to the art and the science of gas, electric and petroleum production, distribution and utilization, the Faculty of Lehigh University, with the approbation and consent of the Board of Trustees has charged me with the pleasant duty of conferring upon you the honorary degree of Doctor of Engineering with all the rights and privileges pertaining thereto. In witness whereof I present you with this diploma and direct that you be invested with the academic insignia appropriate to this degree."

Mr. Doherty was accompanied to Lehigh by Mrs. Doherty, Mr. Coates and Mr. and Mrs. R. G. Griswold.

Hardware Men and Plumbers Advocate A. G. A. Trade Relations Plan

(Continued from page 339)

During the convention of the National Retail Hardware Association a resolution was subsequently adopted in open meeting advocating cooperation of the hardware merchants with gas and electric companies wherever the gas or electric company took the initiative in requesting dealer cooperation.

A resolution was passed by the National Master Plumbers Association recommending that that association accept the six principles of the American Gas Association and do all in its power to aid in their adoption by the state master plumbers associations in developing cooperation with the local gas companies.

Monthly Summary of Gas Company Statistics

FOR MONTH OF MAY, 1931

Issued July, 1931, by the Statistical Department of the American Gas Association
420 Lexington Avenue, New York, N. Y.

PAUL RYAN, Statistician

REVENUES of manufactured and natural gas utilities aggregated \$54,788,105 in May, 1931, as compared with \$55,505,276 in May, 1930, according to reports to the statistical department of the American Gas Association from companies serving some 13,719,538 customers and representing about 90 per cent of the public utility distribution of manufactured and natural gas.

This slight decline in revenues, amounting to only 1.3 per cent, is the smallest decrease in gas utility revenues registered during the current year, and

doubtless presages the attainment of stabilized levels from which future changes should take an upward trend.

Revenues of the manufactured gas utilities aggregated \$32,427,273 for the month, a drop of 1.5 per cent from a year ago, while gas sales totalled 30,419,411,000 cu.ft., a decline of 1.2 per cent.

The natural gas utilities reported sales of 54,742,695,000 cu.ft. for the month, a decrease of 4.5 per cent from the May, 1930, figures. Despite this drop in sales, however, natural gas company revenues aggregated \$22,360,832 for the month,

as compared with \$22,590,984 a year ago, a decrease of only 1 per cent in revenues.

This relatively smaller decline in natural gas revenues, as contrasted with sales, was the result of market expansion of sales and revenues in the domestic and commercial fields, which tended to offset continued declines in sales and revenues from industrial customers. While revenues from industrial sales for the month averaged more than 20 per cent under May, 1930, revenues from domestic and commercial sales were more than 7 per cent above the preceding year.

COMPARATIVE STATISTICS OF 165 MANUFACTURED GAS COMPANIES FOR THE MONTH OF MAY, 1931

	Month of May			Five Months Ending May 31		
	1931	1930	Per cent Increase	1931	1930	Per cent Increase
Customers	9,090,091	9,085,113	0.1	<i>See May</i>		
Gas Sales (MCF)	30,419,411	30,805,155	— 1.2	159,343,246	161,532,957	— 1.4
Revenue (Dollars)	32,427,273	32,914,292	— 1.5	167,409,009	170,307,790	— 1.7
Gas Produced and Purchased (MCF)						
<i>Gas Produced</i>						
(a) Water Gas	15,379,935	15,254,998	0.8	81,793,711	84,999,563	— 3.8
(b) Retort Coal Gas	2,693,451	2,652,520	1.5	13,745,251	13,777,782	— 0.2
(c) Oil Gas	555,267	642,544	—13.6	3,542,966	3,851,410	— 8.0
(d) Coke Oven Gas	4,550,246	4,177,290	8.9	21,706,782	20,191,636	7.5
(e) Reformed Oil Still Gas	386,001	141,641	—	1,843,955	740,441	—
(f) Total Gas Produced	23,564,900	22,868,993	3.0	122,632,665	123,560,832	— 0.7
<i>Gas Purchased</i>						
(a) Coke Oven Gas	8,889,651	9,773,653	— 9.1	47,368,841	48,919,726	— 3.2
(b) Oil Still and Natural Gas	471,599	281,545	67.5	1,871,703	1,518,676	23.2
(c) Total Gas Purchased	9,361,250	10,055,198	— 6.9	49,240,544	50,438,402	— 2.4
Total Gas Produced and Purchased	32,926,150	32,924,191	0.0	171,873,209	173,999,234	— 1.2

COMPARATIVE STATISTICS OF 160 NATURAL GAS COMPANIES FOR THE MONTH OF MAY, 1931

<i>Customers</i>						
Domestic (Including House Heating)	4,392,452	4,338,007	1.2	<i>See May</i>		
Commercial	212,583	192,523	10.4			
Industrial	16,441	14,903	10.3			
Main Line Industrial	5,260	5,910	—11.0			
Miscellaneous	2,711	1,517	—			
Total	4,629,447	4,552,860	1.7			
<i>Gas Sales (MCF)</i>						
Domestic (Including House Heating)	22,262,882	20,227,598	10.1	156,912,104	159,866,111	— 1.8
Commercial	2,899,005	2,437,960	18.9	22,889,011	21,149,329	8.2
Industrial	15,573,469	18,774,107	—17.0	84,565,615	99,440,459	—15.0
Main Line Industrial	13,285,788	15,074,647	—11.9	63,128,704	81,539,289	—22.6
Miscellaneous	721,551	835,660	—	3,076,752	3,873,428	—
Total	54,742,695	57,349,972	— 4.5	330,572,186	365,868,616	— 9.6
<i>Revenue (Dollars)</i>						
Domestic (Including House Heating)	15,428,975	14,399,716	7.1	103,704,634	105,465,386	— 1.7
Commercial	1,477,637	1,371,492	7.7	11,112,640	10,743,515	3.4
Industrial	3,686,203	4,653,867	—20.8	20,155,327	24,853,604	—18.9
Main Line Industrial	1,681,863	1,993,540	—15.6	8,238,904	10,403,743	—20.8
Miscellaneous	86,154	172,369	—	505,609	874,356	—
Total	22,360,832	22,590,984	— 1.0	143,717,114	152,340,604	— 5.7

Associations Affiliated with A. G. A.

Canadian Gas Association

Pres.—Hugh McNair, Winnipeg Electric Co., Winnipeg, Man.
Sec.-Tr.—G. W. Allen, 21 Astley Avenue, Toronto.

Empire State Gas and Electric Association

Pres.—William J. Welsh, New York & Richmond Gas Co., Staten Island, New York.
Chairman Gas Section—M. F. Clement, Rockland Light & Power Co., Middletown, Ind.
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.

Illinois Gas Association

Pres.—H. A. Kleinman, Peoples Power Co., Moline, Ill.
Sec.-Tr.—George Schwaner, 617 Public Service Bldg., Springfield, Ill.

Indiana Gas Association

Pres.—T. L. Kemp, Indiana Consumers Gas & By-Products Co., Terre Haute, Ind.
Sec.-Tr.—P. A. McLeod, Northern Indiana Power Co., Huntington, Ind.

Michigan Gas Association

Pres.—J. E. Spindle, Grand Rapids Gas Light Co., Grand Rapids, Mich.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.

Maryland Utilities Association

Pres.—Adrian Hughes, Jr., Baltimore, Md.
Sec.—D. E. Kinnear, 803 Court Square Bldg., Baltimore, Md.

Mid-West Gas Association

Pres.—John K. Swanson, Minneapolis Gas Light Co., Minneapolis, Minn.
Sec.-Tr.—Roy B. Searing, Sioux City Gas & Electric Co., Sioux City, Iowa.

Missouri Association of Public Utilities

Pres.—A. E. Bettis, Kansas City Power and Light Co., Kansas City, Mo.
Sec.-Tr.—F. D. Beardslee, 315 N. 12th St., St. Louis, Mo.
Asst. Sec.—Jesse Blythe, 103 West High St., Jefferson City, Mo.

New England Gas Association

Pres.—M. B. Webber, Arlington Gas Light Co., Arlington, Mass.
Exec. Sec.—C. D. Williams, 41 Mount Vernon St., Boston, Mass.
Chairman Operating Div.—F. M. Goodwin, Boston Consolidated Gas Co., Boston, Mass.
Sec. Operating Div.—P. R. Buchanan, Hartford Gas Company, Hartford, Conn.
Chairman Sales Div.—J. J. McKearin, Lowell Gas Light Co., Lowell, Mass.
Sec.-Tr. Sales Div.—Robert D. Stuart, Jr., Fall River Gas Works Co., Fall River, Mass.
Chairman Industrial Div.—Chas. H. O'Donnell, Boston Consolidated Gas Co., Boston, Mass.
Sec.-Tr. Industrial Div.—Phillip A. Nelles, Jr., C. H. Tenney Co., Boston, Mass.
Chairman Acctg. Div.—C. N. Alexander, C. H. Tenney & Co., Boston, Mass.
Sec.-Tr. Acctg. Div.—Otto Price, Boston, Mass.
Chairman Manufacturer Div.—A. M. Slattery, The Hoffman Heater Co., Boston, Mass.
Sec.-Tr. Manufacturers Div.—J. H. McPherson, Clow Gasteam Heating Co., Boston, Mass.

New Jersey Gas Association

Pres.—Louis Stoecker, Public Service Electric & Gas Co., Newark, N. J.
Sec.-Tr.—H. E. Cliff, Public Service Electric & Gas Co., Newark, N. J.

Ohio Gas and Oil Men's Association

Pres.—L. K. Langdon, Union Gas & Electric Co., Cincinnati, Ohio.
Sec.-Tr.—Wm. H. Thompson, 811 First National Bank Bldg., Columbus, Ohio.

Oklahoma Utilities Association

Pres.—S. I. McElhoes, Southwestern Light & Power Co., Oklahoma City, Okla.
Mgr.—E. F. McKay, 1020 Petroleum Bldg., Oklahoma City, Okla.

Pacific Coast Gas Association

Pres.—A. E. Fisher, Pacific Gas & Electric Co., San Francisco, Calif.
Mang. Dir.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.

Pennsylvania Gas Association

Pres.—H. Smyser Bair, Pennsylvania Gas & Electric Co., York, Pa.
Sec.-Tr.—Frank W. Lesley, Pennsylvania Gas & Electric Co., York, Pa.

Pennsylvania Natural Gas Men's Association

Pres.—E. S. Templeton, Greenville, Pa.
Sec.-Tr.—B. H. Smyers, Jr., 435 Sixth Ave., Pittsburgh, Pa.

Southern Gas Association

Pres.—Edward N. Avegno, New Orleans Public Service, Inc., New Orleans, La.
Sec.-Tr.—G. H. Schlatter, Birmingham Gas Co., Birmingham, Ala.

Southwestern Public Service Association

Pres.—Knox Lee, Southwestern Gas & Electric Co., Marshall, Texas.
Sec.—E. N. Willis, 4115 Holland Ave., Dallas, Texas.

The Public Utilities Association of Virginia

Pres.—T. Justin Moore, Va. Elec. & Power Co., Richmond, Va.

Wisconsin Utilities Association

Pres.—A. J. Goedjen, Wisconsin Public Service Corp., Green Bay, Wis.
Exec. Sec.—J. N. Cadby, 135 West Wells St., Milwaukee, Wis.

Thirteenth Annual Convention of the American Gas Association
Atlantic City, N. J. - - - October 12-16, 1931

Personnel Service

SERVICES OFFERED

Sales engineer, eighteen years' experience in utility sales department activities and management. Graduate engineer. Desires permanent position with utility or manufacturer. 419.

Superintendent of measurement and distribution of natural gas desires new connection. Twelve years' experience in all branches of the gas industry, including production, transportation, measurement and distribution, both industrial and domestic. Graduate Mechanical Engineer. Employed at present. Age 39. Married. 421.

Manager of group small properties with nineteen years' technical and practical experience in gas manufacture, high- and low-pressure distribution, construction, rate study, sales and public relations. Has built up several run-down properties. Desires similar position or assistant to executive with opportunity for advancement. 422.

Manager with twelve years' experience in all phases of natural gas business desires position as manager of small plant or assistant to manager of large plant. 423.

Commercial manager with a record in the electric as well as the gas industry wishes a new connection in which to demonstrate his sales ability. Broad experience and a record of accomplishment in the appliance manufacturing as well as the utility field. Versed in sales research, budget control, surveys, reports, etc. Also publicity and gas engineering. Now located in the east. 425.

Manager, university graduate (M.E.) with five years' experience in production, distribution and industrial engineering; qualified to manage property 5000 to 10,000 meters. 428.

Chemist, experienced in the preparation of reports, cost estimates, market surveys and in patent and literature searches. University graduate, M.S. (33); ten years' research experience in gas and oil fields. 429.

Engineer-manager with technical education and eighteen years of service in all branches of the gas industry, both manufactured and natural, including public utilities commissions, desires position with considerable responsibility requiring executive ability, technical training and practical experience. 430.

Salesman with twelve years' experience, mostly gas ranges, as manufacturer's representative selling the public utilities in Metropolitan New York and Mid-West, desires a new connection with a progressive manufacturer or public utility. 431.

Gas boiler salesman and engineer with manufacturer or gas company. Twelve years' experience, sales-engineering all phases of gas boiler application and control work. Can figure radiation B.t.u. transmission method, lay out and supervise all types of heating and installation; good gas company and trade following. No objection to travelling. 432.

Industrial engineer (38) with technical and cadet education; twelve years' experience in application of natural and manufactured gas for industrial, commercial, power, large heating boilers and house heating purposes. Experience includes industrial surveys, sales, equipment design, installation and adjustment; interested in new connection with gas company or appliance manufacturer. 433.

Twenty years as manager. Have thorough practical working knowledge of every department, and excellent record for economical operation. Coal or water gas, high or low pressure. I can put your plant on a sound basis and get results. Married. 434.

Public relations adviser available for public relations or supervisory or managerial position with public utility; or secretary public utility association. Wide experience in this field as Association Secretary. Now located in Southwest, but willing to go elsewhere. 435.

SERVICES OFFERED

Man 36 years of age with well rounded utility experience having been general manager of a small property, **house heating engineer** for a metropolitan company, sales manager for a gas and electric company, of 125,000 meters, coal and water gas plant experience, gas and electric appliance buying and merchandising, available now. 436.

Engineer-accountant, experienced in public utility, general accounting, municipal, state and federal tax procedure. Background includes federal service and state regulatory work in capitalization appraisal and valuation. Thoroughly familiar with modern rate structures and preparation of rate case material and exhibits. 437.

Engineer-executive (36) of proven ability handling unusual difficulties in operation and construction. Twelve years' experience manufactured gas and four years' electrical. Mechanical engineer graduate. Familiar New England and Canadian territory. Will go anywhere where there is real work to be done. 438.

Accountant-auditor, broad experience in utility and public accounting. Speaks Spanish, Portuguese, some French and German. Accustomed to living and travelling abroad; willing to travel or locate anywhere. Has executive ability and initiative; used to handling confidential matters and dealing with public officials. 439.

My record of results as an owner of three plants (coal and c.w.g.) makes me available to those desiring a first-class manager. Have lately disposed of last property and am open for an opportunity in any location. 440.

Gas engineer (B.S. and M.E.) with broad and diversified experience in coal and water gas production, distribution and plant erection followed by seven years as designing engineer, valuable assets in my present appraisal work. Strong background of research work and some experience as instructor. 441.

Research chemist, university graduate, M.S. (33). Ten years' government and industrial research experience in gas and related fields. Plant testing, experimental plant operation, and the development of new products. Gas purification, bituminous coatings, coal tar refining, high-pressure hydrogenation, and other problems. 442.

Civil engineer, experienced in design, construction and operation of natural gas pipe lines, compressor stations, and town distribution plants, and who has in addition to the above experience a thorough training in purchasing and executive work. Would like to make a connection as gas engineer or district manager of a natural gas company. 443.

Superintendent, assistant or general foreman with over twenty-five years' experience in coal and water gas manufacture and general plant maintenance. Applicant willing to go anywhere and will guarantee good results. 444.

Manager and engineer, technically sound, well educated with unusually varied experience of twenty years; thorough understanding of economics of different processes including reforming of natural gas and oil-gas, by product utilization, raw materials and unit costs. Accustomed to planning and carrying out improvements and making high- and low-pressure distribution layouts. 445.

Sales manager-engineer. Ten years with leading gas construction company and eight years with general contracting companies, desires new connections. Located in New York City. Will go anywhere. Married. Not afraid to work. 446.

Manager with twenty-three years' experience in all phases of manufactured gas business desires position as manager of small property or assistant to manager of large property. Will consider position to take charge of Operation or Construction Department. 447.

Industrial engineer and furnace designer, ten years' experience with all types of gas operated industrial furnaces, including estimating and erection; technical graduate. No objection to travelling. 448.

POSITIONS OPEN

Manufacturer's representatives wanted to contact utilities with high grade line of automatic storage gas water heaters and conversion burners now being marketed by one of the country's foremost heater manufacturers. Company now making sales arrangements for entire country. Some very desirable territories still available. Straight commission arrangement. 0217.

Rate engineer with both engineering and accounting experience. Knowledge of rate forms, structure and rate-making necessary. Salary about \$4000. 0218.

Manufacturer of gas ranges and appliances with national distribution, one of the leaders in its field, has place for several keen, aggressive **utility salesmen** with proven sales ability and successful sales records willing to invest some time working in a junior capacity with possibilities for advancement. Interview determined upon complete information regarding ability and record. Positions available are in the East. 0219.

Manufacturer's representatives wanted for San Francisco, St. Louis, Birmingham, Detroit, Cleveland, Buffalo, and New York to handle a complete and well-known line of automatic combustion and gas pressure control equipment. Sales previously handled direct from factory. Applicants must be familiar with fuel and combustion engineering problems as encountered in gas plants, coke plants, steel plants and steam plants. 0220.

Salesmen—Investigate this. Are you an appliance salesman who can consistently produce each month? If so, here is our proposition. Salary \$85 per month on first \$500 worth of business; 8% commission on second \$500; and 15% on all over \$1,000 in any calendar month. If you are a producer, write today. 0221.

Industrial engineer by a large utility company completing a pipe line project, to sell gas to industrial companies and to utility companies along the line. Must be of high class type; give details of past work and state salary expected. 0222.

SERVICE FOR THE COMPANY EXECUTIVE

Whether you direct the affairs of a manufacturing gas company, a natural gas system, a holding group, manufacture or sell production or utilization equipment, some time you are in the market for additional help.

A. G. A. Personnel Service stands ready to serve you, prepared to furnish names, qualifications and experience of competent workers in all ranks, concisely abstracted from detailed and confidential classification records. Your attention is further invited to the advertising facilities offered, under a private key number, whereby the Association functions as a confidential clearing house, the identity of the advertiser never being disclosed under any circumstances.

An increased number of advertised openings strengthens the morale of the industry.

Advisory Council

D. D. BARNUM.....	Boston, Mass.
H. E. BATES.....	Chicago, Ill.
T. R. BEAL.....	Poughkeepsie, N. Y.
J. M. BENNETT.....	Philadelphia, Pa.
R. B. BROWN.....	Milwaukee, Wis.
HOWARD BRUCE.....	Baltimore, Md.
J. J. BURNS.....	St. Louis, Mo.
*H. C. CLARK.....	Newark, N. J.
C. M. COHN.....	Baltimore, Md.
J. L. CONOVER.....	Newark, N. J.
GEO. B. CORTELYOU.....	New York, N. Y.
F. G. CURFMAN.....	New York, N. Y.
P. H. GADSDEN.....	Philadelphia, Pa.
E. FRANK GARDINER.....	Chicago, Ill.
R. C. HOFFMAN, JR.....	Atlanta, Ga.
G. M. KARSHNER.....	Brooklyn, N. Y.
J. B. KLUMPP.....	Philadelphia, Pa.
C. C. KRAUSSE.....	Baltimore, Md.
R. M. LEACH.....	Taunton, Mass.
J. P. LEINROTH.....	Newark, N. J.
H. O. LOEBELL.....	New York, N. Y.
F. C. MACKAY.....	Chicago, Ill.
T. N. McCARTER.....	Newark, N. J.
S. W. MEALS.....	Pittsburgh, Pa.
H. C. MORRIS.....	Dallas, Texas
C. A. MUNROE.....	Chicago, Ill.
GEO. W. PARKER.....	St. Louis, Mo.
F. H. PATTERSON.....	Rochester, N. Y.
F. H. PAYNE.....	Erie, Pa.
B. V. PFEIFFER.....	Philadelphia, Pa.
EDWARD PORTER.....	Philadelphia, Pa.
C. R. PRICHARD.....	Lynn, Mass.
H. S. SCHUTT.....	Philadelphia, Pa.
W. E. STEINWEDELL.....	Cleveland, Ohio
A. L. TOSSELL.....	Chicago, Ill.
H. LEIGH WHITELAW.....	New York, N. Y.
GEORGE E. WHITWELL.....	Philadelphia, Pa.

*Deceased.

AMERICAN GAS ASSOCIATION, INC.

HEADQUARTERS, 420 LEXINGTON AVE., NEW YORK, N. Y.

Officers and Directors

President	C. E. PAIGE	Brooklyn, N. Y.
Vice-President	R. W. GALLAGHER	Cleveland, Ohio
Vice-President	N. C. MCGOWEN	Shreveport, La.
Vice-President	ARTHUR HEWITT	Toronto, Ont.
Treasurer	WILLIAM J. WELSH	Staten Island, N. Y.
Managing Director	ALEXANDER FORWARD	New York, N. Y.
Assistant to Managing Director	L. C. SMITH	New York, N. Y.
Assistant Manager	H. W. HARTMAN	New York, N. Y.
Secretary	K. R. BOYES	New York, N. Y.
Director, Publicity-Advg.	KEITH CLEVINGER	New York, N. Y.
Departmental Vice-Pres.	H. C. COOPER	Pittsburgh, Pa.
Sectional Vice-Pres.	D. M. MACKIE	Jackson, Mich.
Sectional Vice-Pres.	J. I. BLANCHFIELD	Brooklyn, N. Y.
Sectional Vice-Pres.	D. W. CHAPMAN	Chicago, Ill.
Sectional Vice-Pres.	E. S. DICKEY	Baltimore, Md.
Sectional Vice-Pres.	R. G. GRISWOLD	New York, N. Y.
Sectional Vice-Pres.	E. R. ACKER	Poughkeepsie, N. Y.

H. C. ABELL	New Orleans, La.	SAMUEL INSULL, Jr.	Chicago, Ill.
WALTER C. BECKJORD	Boston, Mass.	CONRAD N. LAUER	Philadelphia, Pa.
J. D. CREVELING	New York, N. Y.	F. A. LEMKE	Kalamazoo, Mich.
J. S. DeHART, Jr.	Newark, N. J.	A. B. MACBETH	Los Angeles, Calif.
HENRY L. DOHERTY	New York, N. Y.	FRED A. MILLER	Bradford, Pa.
O. H. FOGG	New York, N. Y.	A. E. PEIRCE	Chicago, Ill.
F. C. FREEMAN	Providence, R. I.	HERMAN RUSSELL	Rochester, N. Y.
F. T. HULSWIT	New York, N. Y.	ARTHUR STOCKSTROM	St. Louis, Mo.
B. J. MULLANEY	Chicago, Ill.	T. R. WEYMOUTH	Newark, N. J.
		P. S. YOUNG	Newark, N. J.

Section and Department Officers

NATURAL GAS—Chairman	H. C. COOPER	Pittsburgh, Pa.
Vice-Chairman	H. L. MONTGOMERY	Bartlesville, Okla.
Secretary	E. J. STEPHANY	Dallas, Texas
ACCOUNTING—Chairman	J. I. BLANCHFIELD	Brooklyn, N. Y.
Vice-Chairman	WILLIAM A. DOERING	Boston, Mass.
Secretary	H. W. HARTMAN	New York, N. Y.
COMMERCIAL—Chairman	E. R. ACKER	Poughkeepsie, N. Y.
Vice-Chairman	SAMUEL INSULL, Jr.	Chicago, Ill.
Secretary	J. W. WEST, Jr.	New York, N. Y.
INDUSTRIAL GAS—Chairman	D. W. CHAPMAN	Chicago, Ill.
Vice-Chairman	A. J. PETERS	New York, N. Y.
Secretary	C. W. BERGHORN	New York, N. Y.
MANUFACTURERS'—Chairman	E. S. DICKEY	Baltimore, Md.
Vice-Chairman	DAVID F. KAHN	Hamilton, Ohio
Vice-Chairman	W. E. STEINWEDELL	Cleveland, Ohio
Secretary	C. W. BERGHORN	New York, N. Y.
PUBLICITY AND ADVERTISING		
Chairman	D. M. MACKIE	Jackson, Mich.
Vice-Chairman	WILLIAM H. HODGE	Chicago, Ill.
Secretary	ALLYN B. TUNIS	New York, N. Y.
TECHNICAL—Chairman	R. G. GRISWOLD	New York, N. Y.
Vice-Chairman	I. K. PECK	Chicago, Ill.
Secretary	H. W. HARTMAN	New York, N. Y.
Asst. Secretary	K. H. CREE	New York, N. Y.

